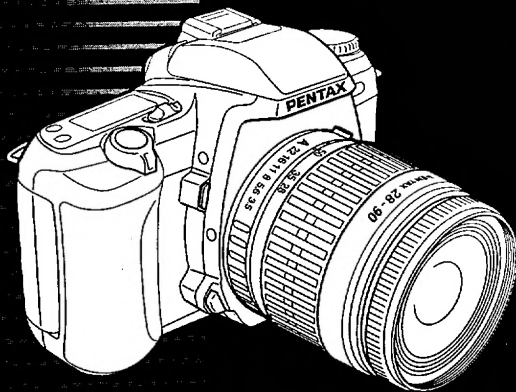


PENTAX®

ZX-L

OPERATING MANUAL



WELCOME

Thank you very much for purchasing the Pentax SLR camera. Please read this manual before using the camera in order to get the most out of all the features and functions. Keep this manual safe, as it can be a valuable tool in helping you to understand all the camera's capabilities.

Although we have carefully designed this camera for safe operation, please be sure to follow precautions given on this page.



WARNING

This mark indicates precautions that, if not followed, could result in serious injury to the operator.



CAUTION

This mark indicates precautions that, if not followed, could result in minor or medium injury to the operator or damage to the equipment.








This mark indicates prohibited matters.



This mark indicates that caution should be taken.






WARNING

-  The electronic circuits inside the camera contain high voltage working parts. Never attempt to disassemble the camera yourself.
-  Never touch internal parts of the camera if they become exposed from dropping the camera or for some other reason, as there is danger of an electric shock.
-  Wrapping the strap around your neck is dangerous. Make sure that small children do not get the strap caught around their neck.
-  Do not look directly at the sun through the camera, as viewing the sun for may damage your eyes, and/or parts of the camera (e.g. shutter blades, etc.)
-  Be sure to store batteries out of the reach of children. Seek medical assistance immediately if accidentally swallowed.



CAUTION

-  Do not use the flash near anyone's eyes, as it may hurt them. Be particularly careful with the flash around infants.
-  Never try to disassemble, short or recharge the battery. Also, do not dispose of the battery in fire, as it may explode.
-  Remove the batteries from the camera immediately if they become hot or begin to smoke. Be careful not burn yourself during removal.

Your Pentax camera is a high-precision mechanism. Handle it with great care.

Precautions when taking pictures

- Do not use the camera where it may come in contact with rain, water, or any other liquid, because the camera is not weather, water, or liquid resistant. Should the camera get wet from rain, splashing water, or any other liquid wipe it off immediately with a dry soft cloth.
- Do not drop the camera or allow it to hit solid objects. If the camera suffers a shock or impact, take it to a Pentax service center for inspection.
- Be careful not to subject the camera to strong vibrations, shock or pressure. Use a cushion to protect the camera when carrying it in a motorcycle, car, boat, etc.
- Condensation on the interior or exterior of the camera may be extremely harmful to the camera mechanism as it may cause rust. Furthermore, if the camera is taken from warm temperature to a subfreezing one or vice versa, the formation of crystals may cause damage. In such a case, put the camera into a case or plastic bag so that any changes in temperature difference is minimized. Do not remove it from the bag until temperature has stabilized.
- Regular size color prints may cut off what appears on the extreme edges of the film frame. Compose your picture with a margin of safety at the edges.
- When a macro or telephoto lens is attached to the camera, the top part of the viewfinder may look dark due to the lens blocking the mirror. However, this does not affect the picture taken.

Precautions for storage

- Avoid leaving the camera for extended periods in places where the humidity and temperature are very high, such as in a car.
- Do not store the camera in a closet with moth balls or in an area where chemicals are handled. Store it in a place with good dry air circulation to prevent the growth of fungus.

Precautions for proper care

- Never touch the shutter curtain or mirror with your finger or any other object.
- Use a blower and lens brush to remove dust accumulated on the lens or viewfinder.
- Never use solvents such as paint thinner, alcohol or benzene to clean the camera.
- Electrical problems may often be caused by water, dirt or dust at points of electrical contact. Also check for battery leakage, traces of dirt or grease, or corrosion due to salinity or gas. If you cannot correct the problems, have your camera inspected at a Pentax service center. Repairs of this nature are not covered under the terms of the warranty and charges may be assessed.

Other precautions

- The temperature range at which this camera functions properly is 50°C to -10°C (122°F to 14°F).
- A camera which has been submerged in water usually cannot be repaired. If such an accident should occur, it is advisable to contact a Pentax Service Center immediately.
- To maintain optimum performance, it is recommended that the camera be inspected every one or two years. If the camera has not been used for an extended period, or is being prepared for an important photographic session, it is recommended that you have the camera inspected or test shoot with it.
- Repairs deemed necessary due to usage of this product in an industrial or commercial application may not be covered under the terms of the Pentax warranty.
- The PENTAX warranty provides only for the repair of defects in materials or workmanship. Damage of any kind cannot be repaired at no charge under the terms of the warranty. If the difficulty is caused as a direct result of the product being used in conditions as outlined in the "Precautions for Your Camera" section or any other operation contrary to the instructions outlined in this manual, charges will be assessed and a repair quotation will be provided.

PRECAUTIONS FOR BATTERY USAGE

- Use two 3V lithium batteries (CR-2 type).
- Misuse of the battery can cause hazards such as leakage, overheating, explosion, etc. The battery should be inserted with the "+" and "-" sides facing correctly.
- Battery performance may be temporarily hindered in low temperatures, but will recover in normal temperatures.
- Keep a spare battery on hand for replacement convenience when shooting outdoors or while traveling.
- If the built-in flash is used continuously, the battery may become warm, but it does not mean that the battery is faulty; it is one of the battery's characteristics.
- Replace the batteries at the same time. Do not mix battery brands, type or an old battery with a new one. It may cause explosion or overheating.

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BASIC21

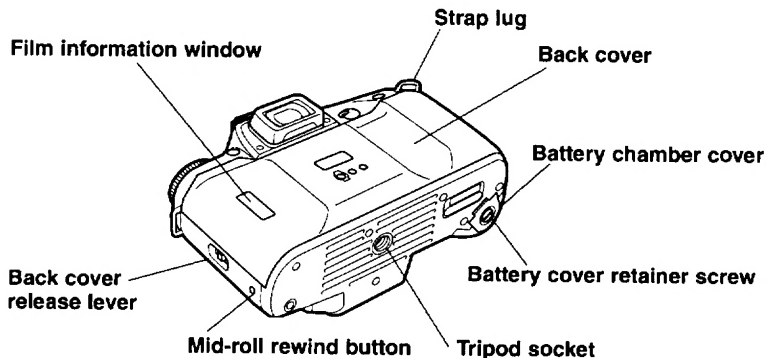
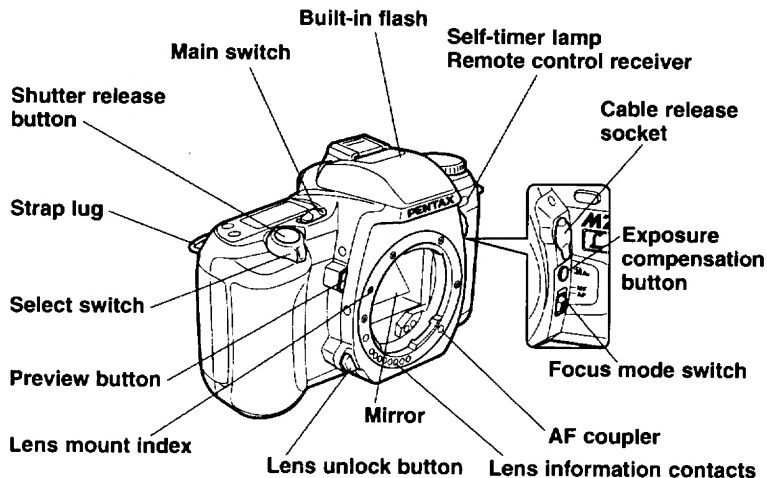
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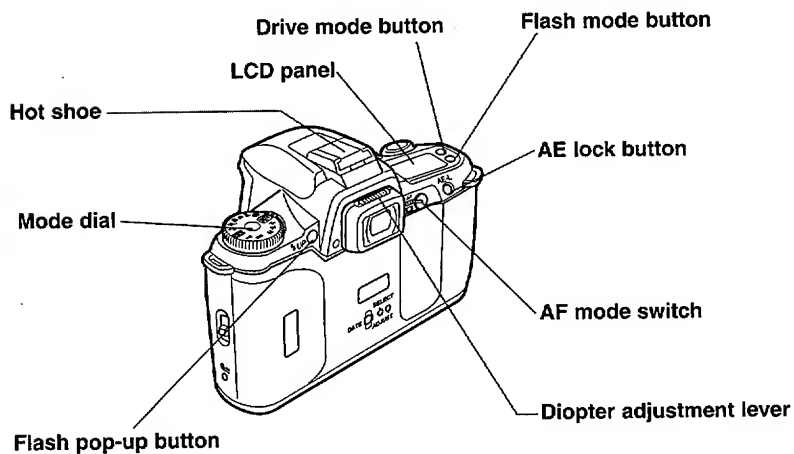
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NAMES OF WORKING PARTS





USING THIS OPERATING MANUAL

This operating manual consists of the following sections.

◆Things to Check

This section is before "Things to Do," and it explains cautions for using the camera and accessories, as well as the names of working parts.

◆Things to Do

Explains the procedures to be followed before you use the camera for the first time.

It also explains how to load and rewind the film.

◆Basic Operations

- Explains the easiest way to take pictures with the camera set to single-frame mode, programmed AE mode, multi-segment metering mode, and AF mode.
- Using the Built-in Flash: Explains how to use the built-in flash.

◆Advanced Operations

The camera's features are explained in detail.

- Picture-taking Techniques: Consecutive-frame mode, multi-exposure mode, self-timer mode, auto bracketing
- Setting the Exposure: Auto Picture mode, Shutter-Priority AE, Aperture-Priority AE, metered manual exposure, bulb exposure, exposure compensation
- Focusing: Auto focus mode, manual focusing

◆Flash Photography

- Tips: Tips on using flash in backlit conditions and at night, flash exposure settings, and effective flash range.
- Using a Pentax-Dedicated External Flash: Explains the operation for dedicated external flash units and high-speed sync and wireless mode features with the AF360FGZ.

SET UP

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BEFORE TAKING PICTURES

Things to do before using the camera for the first time.

Step 1 Attaching the Strap

- 1 Pass the end of the strap through the strap lug from underneath, then pass the strap through the clasp from underneath.



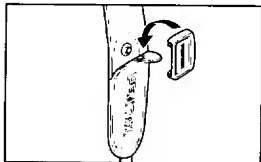
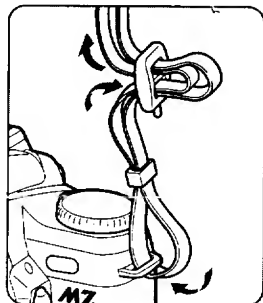
The strap's clasp can be used to rewind the film in mid-roll or to alter the date or time. Position the clasp away from the camera body.

- 2 Follow the same procedure to attach the other end of the strap to the other strap lug.



Using the strap pocket

The strap also has a pocket which can store the viewfinder cap, hot shoe cover or any other small accessory as illustrated.



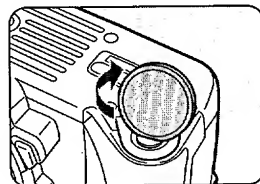
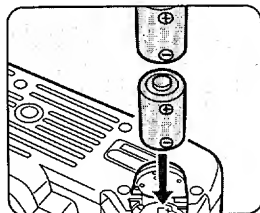
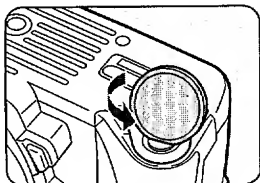
Step 2 Loading the Batteries

- 1** As shown in the illustration, open the battery chamber cover by turning it with a coin.
- 2** As shown in the illustration, load the two lithium CR2 batteries or equivalent into the battery chamber with the batteries' positive (+) contacts pointing up.
- 3** Push in the battery chamber cover firmly and use a coin to turn the cover clockwise to close.



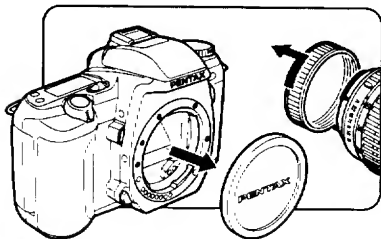
About the Batteries

- Be sure to use two lithium CR2 batteries.
- When taking the camera to unfamiliar areas or when using in cold environments, take a spare set of batteries.
- See "Replacing the Batteries" to replace the batteries and read the cautions regarding the batteries. (p.38)



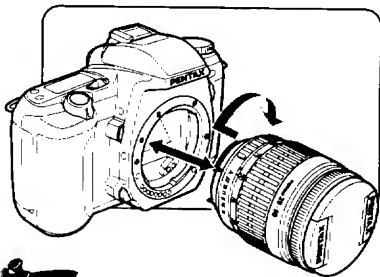
Step 3 Attaching a Lens

- 1 Remove the body mount cap and rear lens cap.



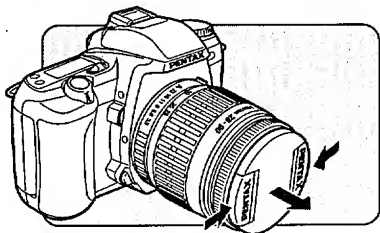
The body mount cap protects the inside of the camera from dust and scratches upon factory shipment. For long-term camera storage, the optional accessory "Body Mount Cap K" is also available.

- 2 Align the red dots on the lens and camera while attaching the lens to the camera, then turn the lens clockwise until it clicks in place.



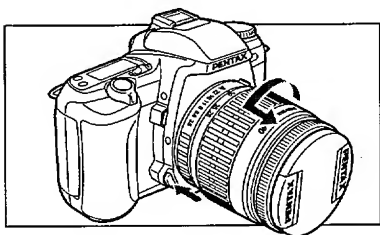
- After attaching the lens, try and turn the lens counterclockwise to make sure it is locked in place.

3 As shown in the illustration, remove the front lens cap.



Handling the Lens

- To detach the lens, hold down the lens unlock button and turn the lens counterclockwise.



- We assume no responsibility nor liability for damages resulting from the use of lenses made by other manufacturers.
- Use a soft, dry cloth to keep the electrical contacts on the body mount and lens mount clean. Dirt or corrosion on the contacts can cause problems with the electrical system.

Step 4 Imprinting the date or time (OPTIONAL)

If you have purchased your camera as the Date model Version, or if you have purchased the Data Back FJ separately, read this section.

Imprint the date or time within the picture.

- 1 Press the DATE button on the DATA BACK FJ to set the desired imprinting format.

Each time you press the DATE button, the display will change in the following sequence:

- * The sample display below indicates November 1, 2001, 2:10 PM.
YY indicates the year's last two digits,
MM is the month, DD is the day, hh is the hour, and mm is the minute.

[YY MM DD]→[01 11 1]

[DD hh mm]→[1 14:10]

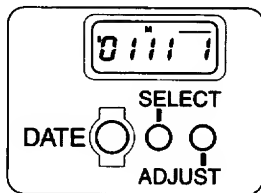
[-- -- --]→Blank

[MM DD YY]→[11 1 01]

[DD MM YY] →[1 11 01]



The date or time is imprinted on the lower right corner of the picture. If this part of the picture is light-colored (white, yellow, etc.), the imprinted date or time may be difficult to distinguish.



NOTE

- To set the correct date and time, see ADJUSTING THE DATA BACK on page 42.
- If the imprinting looks too light or if the Data back's display looks light or shows nothing, replace the Data back's battery. (p.40)
- The date or time of the first frame will be imprinted in the multi-exposure mode.

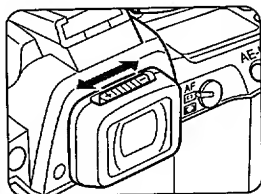
Step 5**Adjusting the viewfinder's diopter**

Adjust the viewfinder's diopter to suit your eye's vision.

- 1** Look through the viewfinder and point the camera to a well-lit scene. Then move the diopter adjustment lever left or right until the autofocus frame in the finder looks sharp.



The diopter can be adjusted from -2.0 to +1.0m⁻¹ (per meter).



Step 6 Film loading

Automatic film speed setting

This camera is designed to use DX-coded films with ISO ratings from 25 to 5000.



We suggest that you first operate the camera with no film loaded to become familiar with its operations.



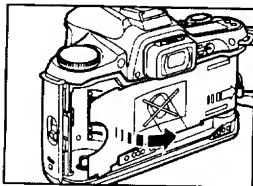
- When DX-coded film is used, the correct film speed is automatically set for the camera. If you use a non-DX coded film, you can set the film speed manually. (p.36)

- 1** To open the back cover, slide the back cover release lever in the direction of the arrow.

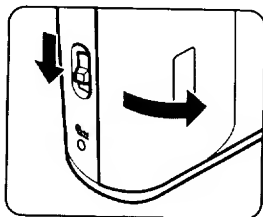


Remove the protective cover

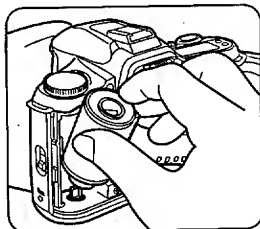
- Before loading film for the first time after purchase, open the back cover and remove the protective sheet.
- Be careful not to touch the shutter curtains with the protective card.



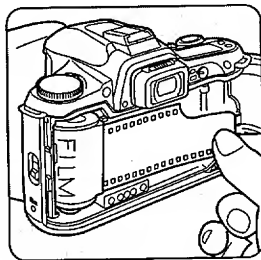
- Always load and unload film in the shade or by using your body to shade the camera.



- 2** Place the film cartridge in the film chamber as shown in the illustration.



- 3** As shown in the illustration, pull the film leader out only far enough to reach the take-up spool.

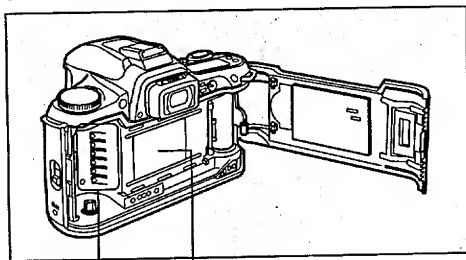


★Important★

The shutter curtains are fine-precision material. Do not touch them with your fingers or any other object while loading film.

NOTE

- The DX information pins in the film chamber are used to read film speed. Keep them clean and free from scratches. To remove smudges, wipe them gently with a soft, dry cloth.



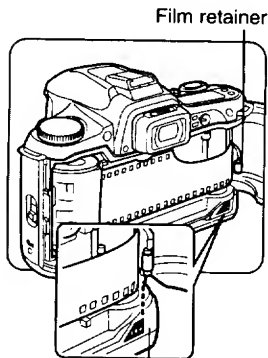
DX information pins

Shutter curtains

- 4** Align the film leader with the film leader end mark and make sure that the film leader is positioned under the film retainer as shown in the illustration.



- If the end of the film leader is extremely bent, straighten it or cut off the bent portion.
- If you have pulled out too much film, push it back into the cartridge to reduce the slack.



- 5** Close the back cover.

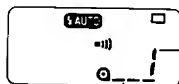
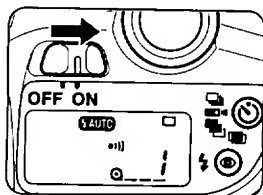
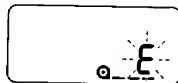
- 6** Turn the main switch to [ON].

The film will advance to frame 1 automatically, and the LCD panel will display the exposure counter 1 and film status information.



Incorrect film loading

If the film is not loaded properly, the LCD panel will display **E**. Open the back cover and load the film again.



Film status information

Exposure counter

BASIC

BASIC OPERATIONS

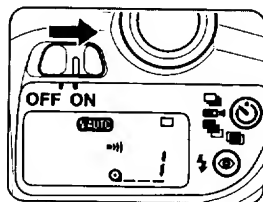
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QUICK AND EASY SHOOTING

POWER ON/OFF

1 Turn on the camera.

- ① Turn the main switch to ON.

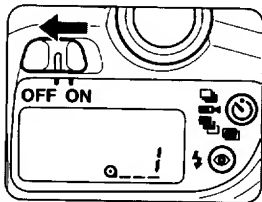


2 Turn off the camera.

- ① After you finish taking pictures, turn the main switch to OFF.



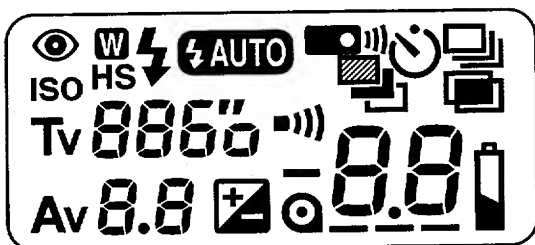
Be sure to turn the main switch to OFF to prevent accidental drain on the batteries.





About the LCD Panel

The LCD panel displays the following indications:



- : Flash status information p.30
- : Red-eye reduction flash indication p.33, 87
- : Automatic flash information p.87
- ISO** : Manual-set film speed p.36
- Tv 886** : Shutter speed
- : Battery exhaustion warning p.38
- : Remote control release p.50
- : Consecutive shooting p.46
- : Audible PCV signal p.74
- : Self-timer p.49
- : Multiple-exposure shooting p.47
- Av 8.8** : Aperture value
- : Exposure compensation p.71
- : Film status information p.20
- 88** : Exposure counter p.20
and exposure compensation value p.72
- W** : Wireless flash mode p.99, 100
- HS** : High-speed sync mode p.97, 98

NOTE

Under the dim light condition, the LCD panel will be illuminated automatically.

QUICK AND EASY SHOOTING

For quick and easy shooting, set your camera for single-frame shooting, Auto picture, multi-segment metering, and autofocus.

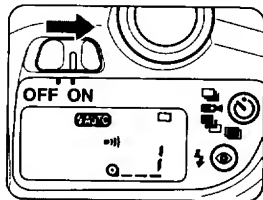


To load the batteries and film or to attach the lens, see "Things to Do." (p.11)

1

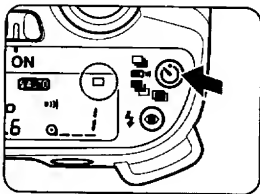
Set the single-frame drive mode.

- ① Set the main switch to [ON] position.



- ② Press the drive mode button until [] appears on the LCD panel.

One picture is taken each time the shutter release button is pressed.



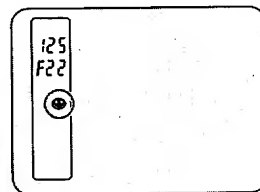
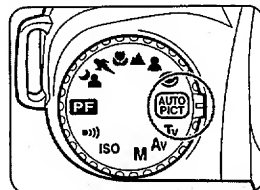
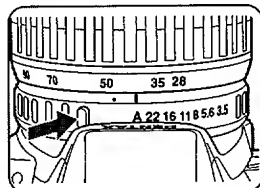
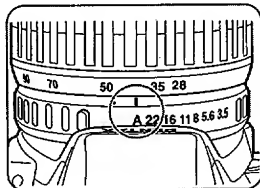
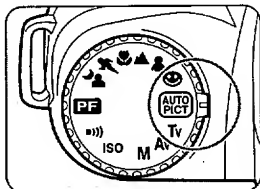
The drive mode can also be set to consecutive-frame mode (p.46), self-timer (p.49), remote control release mode, auto bracketing or multiple-exposure mode (p.47).

2 Set the Auto Picture Mode.

- ① Set the mode dial to the [AUTO PICT] position.
- ② Turn the aperture ring to the [A] position while holding down the aperture-A lock button on the lens.
- ③ The lens aperture ring can be released from the [A] position in the same manner.
- ④ The selected picture mode appears in the viewfinder and the mode dial.



This Auto picture mode allows you to take pictures by simply pressing the shutter release button. The camera automatically selects the proper exposure.



BASIC

BASIC OPERATIONS



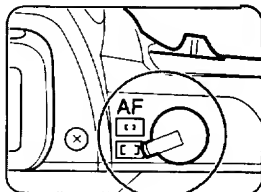
- In the Auto picture mode, the camera automatically selects one of 5 picture modes according to the requirement of the scene.
- The Auto picture mode operates only when an FA or F lens is attached.
- See page 56, 63 for any other exposure mode.
- The AE lock function or exposure compensation function cannot use while the Auto picture mode is being used.

3 Set the AF mode switch to [Wide []]

- ① Set the AF mode switch to [[]].



- The subject will be focused properly even if the main subject is off the center of the viewfinder.
- See page 80 for details of Sopt AF.



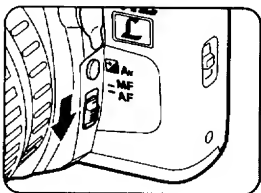
4 Set autofocus

- ① Set the focus mode switch to the down position at [AF].

When you press the shutter release button halfway down, the lens automatically focuses. The picture cannot be taken unless focus is achieved. The focus will remain locked as long as the shutter release button is held in the halfway down position.



- See page 78 for the manual focus.



TAKING A PICTURE

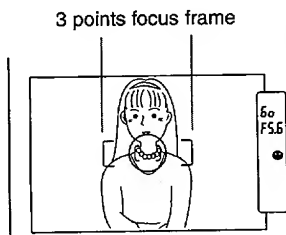


NOTE
To load the film and batteries or to attach a lens, see "Things to Do."
(p.11).

1 Frame the subject

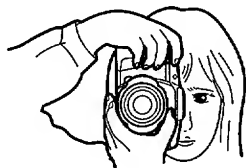
① Look through the viewfinder and frame the subject.

Autofocus works with the 3 points-AF frame [] in the viewfinder. Cover the subject with the AF frame [].



Holding the camera

- Hold the camera firmly, with your left hand supporting the camera and lens as shown in the illustrations.



- To reduce camera shake, support your body or the camera on a solid object - a table, tree, or a wall for instance.
- Although there are individual differences among photographers, in general the shutter speed for a hand held camera is the inverse of the focal length. For example, 1/60 of second when focal length is 50mm, and 1/125 of second when it is 100mm. A tripod should be used for shutter speeds slower than this.
- When using a telephoto lens, a tripod that is heavier than the total weight of the camera and lens is recommended to avoid camera shake.



Using a Zoom Lens

◆ Using the Manual Zoom Lens

To photograph a wider area, turn the zoom ring to the left. To magnify the subject, turn the zoom ring to the right.

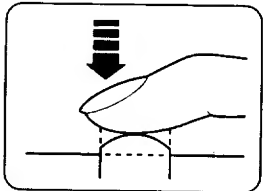
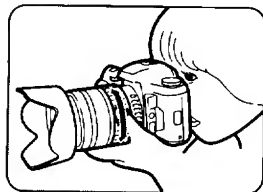
2 Taking the picture

- ① **Lightly depress the shutter release button halfway down with your finger.**

The exposure information (shutter speed, aperture, flash status) will be displayed in the viewfinder.



- See page 75 for autofocus.



BUILT-IN FLASH - SMART FLASH

The basic procedure for using the built-in flash is explained below.




To set the built-in flash's flash mode or when using an external flash unit, refer to "Using external flash" on page 95.

USING THE BUILT-IN FLASH




- When using the built-in flash, do not attach a hood to the lens. The hood will obstruct a part of the flash light.
- As a rule of thumb the distance for using the built-in flash (which varies with the lens used) is within about four meters (using ISO 400 film).
- The built-in flash does not retract automatically.

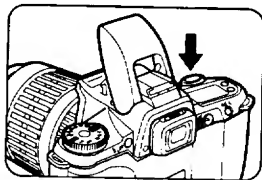
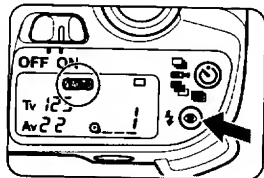
1 Auto pop-up flash function

- ① Press the flash mode button until [ AUTO] appears on the LCD panel.
- ② The built-in flash automatically pops up when pressing the shutter release button halfway down in the following conditions.
 1. Low light situation
 2. backlit situation



When the built-in flash is fully charged, [] appears in the viewfinder and on the LCD panel.

- ③ Focus the subject and take a picture.






- The built-in flash does not retract automatically.
- The auto pop-up flash mode can only be set when the Auto picture mode or one of 5 picture modes is set. p.24, 56
- When the Flash pop-up button is pressed after the flash has popped up, the [AUTO] on the LCD panel goes out and the camera enters the Auto pop-up mode in which the built-in flash fires at all times.




- The shutter cannot be release while the built-in flash is being charged.
- If the built-in flash is used continuously, the batteries will get warm, but it does not mean that the batteries are faulty.
- The built-in flash pops up not only when using the camera in a dark location, but also when there is back light.
- Note the built-in flash pops up even when the subject is far away or beyond the maximum flash effective range. See page 86 for the flash effective distance.



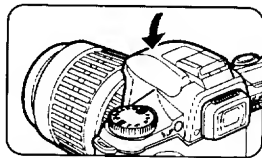
When [] blinks

When using an F or FA lens not suited for flash photography, [] will blink in the viewfinder and on the LCD panel when the flash is ready and the shutter release button is pressed halfway down. Taking a picture with this warning may cause vignetting in the picture corners or semicircular vignetting at the bottom of the picture.

See F and FA Lens Compatibility Table  p.90


2 Retracting the built-in flash

- ① After using the built-in flash, push down the flash head to lock it in the closed position.



AF illuminator




When the shutter release button is pressed halfway down where it is hard for autofocus to work, such as in a dark place, the built-in flash discharges continuously to provide illumination, making it easy for the autofocus to work.

- In the case of using an AF spot beam of an external flash unit such as the AF360FGZ or AF500FTZ, the AF illuminator of the built-in flash does not operate.
- The AF illuminator does not operate when the exposure mode is set to the Action Program Mode [] and the focus mode switch is set to MF.
- Since the external flash unit will end up discharging if the AF illuminator is operated when using the sleeve function of the AF360FGZ, AF500FTZ set the focus mode switch to the MF position when using the sleeve function.
- The AF illuminator may not operate if the batteries become worn down.
- Although varying according to the conditions at the time, the effective distance of the AF illuminator is roughly 1 to 5 meters.

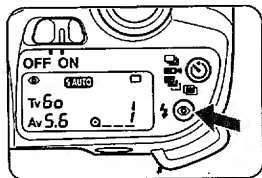
SETTING THE RED-EYE REDUCTION MODE

Red-eye reduction mode: To make the eye's iris smaller, a low-output flash fires right before the picture is taken. This is to reduce the chances of red eye from occurring in the subject's eyes.

Setting the red-eye reduction mode

- ① Press the flash mode button until [] or [ **AUTO**] appears on the LCD panel.
If [] is selected, press the Flash pop-up button to activate the built-in flash on.

Refer to page 86 for Flash mode display.



UNLOADING FILM

Film rewind (auto/manual), setting the ISO for non-DX-coded film, and exposure data imprinting are covered here.

REWINDING THE FILM




- Always unload film in the shade or by using your body to avoid direct sunshine.
- Never open the back cover until the whole film roll is completely rewind.


◆ Automatic film rewinding



The shutter may be released a frame or more after the specified number of frames have been used as indicated on the film cartridge. However, those extra frames may be lost in processing. When you take important pictures, rewind the film when the film reaches the number of frames indicated on the film cartridge.

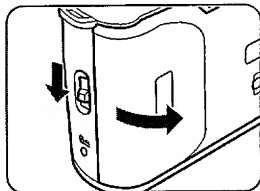
① The film automatically rewinds at the end of the roll.

During rewinding, [] blinks on the LCD panel, indicating that the film is being rewind.

When the film is fully rewind, [] blinks and the exposure counter disappears from the LCD panel.



- ② Before opening the back cover, check that [Q] is blinking.



◆ Rewinding a film in mid-roll

If you wish to unload the film before exposing all the frames, use this function.



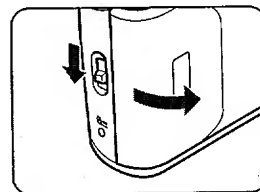
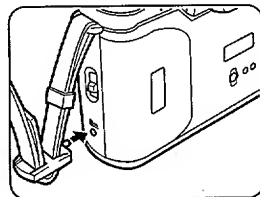
- At the end of the film rewind, you can also leave the film leader outside the cartridge. (p.116)

- ① Turn the main switch to ON.
- ② Use the strap clasp's rod to press the mid-roll rewind button, when the film is fully rewound, [Q] blinks and the exposure counter disappears from the LCD panel.



Avoid using anything other than the strap clasp's rod to press the mid-roll rewind button. If you have to use some other instrument such as a ballpoint pen, be sure to press the button gently without excessive force.

- ③ Before opening the back cover, check that [Q] is blinking on the LCD panel.

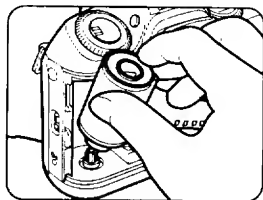


SETTING THE FILM SPEED (ISO) MANUALLY

The camera automatically reads the film speed from the film's DX code. However, the film speed setting can be changed. If you use a non-DX coded film, set the film speed manually.

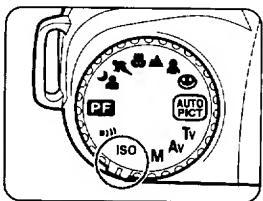
1 Load the film.

- ① Load the non-DX-coded film.



2 Setting the ISO speed

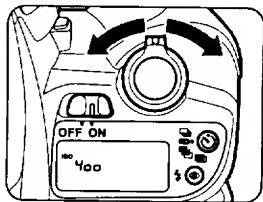
- ① Set the mode dial to [ISO].



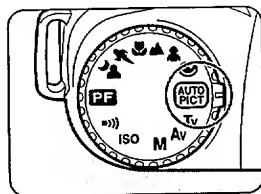
- ② Move the select switch to set the ISO speed.



- The ISO speed can be set from ISO 6 to 6400 in 1/3-EV increments.
- [ISO] is displayed when the film speed is set manually for the DX-coded film.



- ③ After setting the ISO speed, set the mode dial to any position other than [ISO].




REPLACING THE BATTERIES

REPLACING THE CAMERA BATTERIES



When the camera's lithium CR2 batteries are exhausted, replace with a new set.

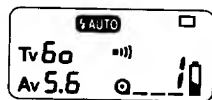
◆ When the batteries are exhausted

When the batteries are exhausted, the LCD panel will display the low battery warning .

Keep a set of new lithium CR2 batteries handy. Even while the low battery warning is displayed, as long as the shutter works, a proper exposure will be obtained.

◆ When the batteries must be replaced

When the low battery warning  blinks, the information display in the viewfinder will be off and the shutter will not work. Replace the lithium CR2 batteries with new ones. ( p.13)





- Replace the two batteries at the same time. Do not mix battery type, brands or old battery with new one. It may cause explosion or overheating.
- When the batteries are replaced, the following settings will take effect. All other settings will remain unchanged.
 - Auto pop-up flashOn
 - Drive modeSingle frame
 - Audible PCV signalOn
- If the camera has not been used for a long time, the LCD panel may still display the low battery warning even with a new set of batteries. In this situation, turn on the camera and press the shutter release button halfway down. When the low battery warning turns off, you can continue using the camera.



Battery Life (using 24-exposure film rolls)

The number of 24-exposure film rolls that can be taken with a new set of batteries is indicated below.

	Number of film rolls at 20°C/68°F	Number of film rolls at -10°C/14°F
General existing light photography	about 120 rolls	about 30 rolls
Flash photography (using flash 50% of the times)	about 20rolls	about 15 rolls
Flash photography (using flash 100% of the times)	about 12 rolls	about 5 rolls
Bulb exposure time	about 8 hours	about 2 hours

- CR2 batteries were used under Pentax testing conditions. Actual battery life and performance may vary drastically depending on usage of autofocus, built-in flash and external conditions such as temperature and freshness of the battery.

REPLACE BATTERY FOR DATA BACK FJ (OPTIONAL)

If you have purchased your camera as the Date model Version, read this section.

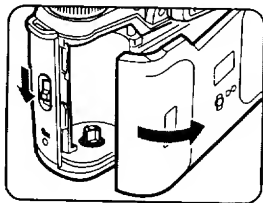
If the date/time display or imprinting looks faint, replace the lithium CR2025 battery.



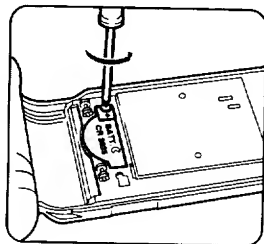
- Replace the battery when the data information on a picture or the LCD panel becomes weak or invisible. The battery will last for approximately 3 years. The data back uses one 3V lithium battery, type CR2025.
- After replacing the battery, set the correct date and time. (p.42)

1 Remove the battery.

- ① Ensure that a film is not loaded, then open the back cover.



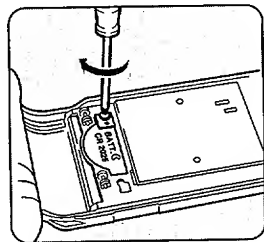
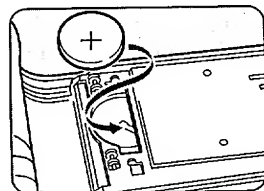
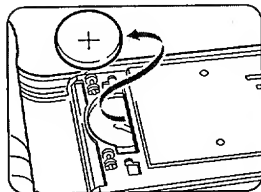
- ② Loosen the battery cover fixing screw (located near the upper left side of the pressure plate) with a Phillips head screwdriver and then remove the battery chamber cover.



- ③ Remove the old battery.

2 Install a new battery.

- ① Install a new battery with the + side facing up.
- ② Reinstall the battery chamber cover, and tighten the battery chamber fixing screw.

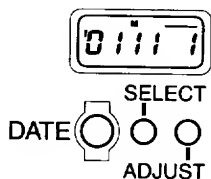


ADJUSTING THE DATA BACK FJ (OPTIONAL)

If you have purchased your camera as the Date model Version, or if you have purchased the Data Back FJ separately, read this section.



Use the strap clasp's rod to press the buttons. Do not press the buttons with an object having a sharp tip.



1 Adjusting the year/month/day.

- ① Press the [SELECT] button to make the year, month or day you want to change blink.



The digits blink in the following order.
Year- Month - Day

- ② Change the date with the [ADJUST] button.



The digit increases by one each time the [ADJUST] button is pressed. Holding the button for about 2 to 3 seconds will change the digits continuously.

- ③ Press the [SELECT] button to stop the digit from blinking, after you have changed the date. The adjusted date has been entered.

2 Adjusting the hour/minute.

- ① Press the [SELECT] button to make the hour, minute or second (:) you want to change blink.



The digits blink in the following order.
Hour → Minute → : → Hour

- ② Change the data (hour or minute) with the [ADJUST] button.



The digit increases by one each time the [ADJUST] button is depressed. Holding the button for about 2 to 3 seconds will change the digits continuously.

- ③ To change the second (:), press the [SELECT] button until “ : ” will blink, and then press the [ADJUST] button in sync with a time signal to set the second to zero.

- ④ Press the [SELECT] button to stop the adjusted hour/minute from blinking.



Operational precautions

- To select or cancel the date imprinting or to select the format, see “Imprinting the Date and Time” on page 16.
- If the imprinting looks too light or if the Data back's display looks light or shows nothing, replace the Data back's battery. (p.40)
- The working temperature for data printing is 0°C - 50°C (32°F - 122°F).
- Imprinted data may appear too light under the low temperature.
- Use DX-coded films with ISO rating from 25 - 1600.
- If high-speed film with an ISO rating of 1000 or faster is used, the imprinted characters may blur.
- If film with ISO rating of 50 or slower is used, the printed characters may be dark or dim.
- If you release the shutter while the blinking data is being corrected, the data cannot be imprinted.

ADVANCED OPERATIONS

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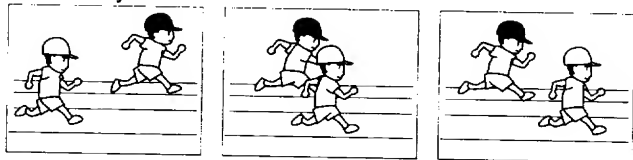
CAMERA OPERATION

Besides single-frame drive mode, the camera can be set as follows:

- **Consecutive-frame drive mode:** Pictures can be taken consecutively while holding down the shutter release button. p.46
- **Multi-exposure mode:** Expose the same frame multiple times. p.47
- **Self-timer mode:** A picture will be taken with a 12-second delay. p.49
- **Wireless remote control:** The wireless remote control allows you to trip the shutter at a distance. p.50
- **Auto bracketing:** Three pictures are taken consecutively as follows: Correctly exposed, underexposed, and overexposed. p.53

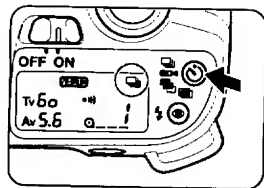
CONSECUTIVE-FRAME DRIVE

Keep the shutter release button pressed to take pictures continuously.



1 Setting the consecutive-frame drive mode

- ① Turn the main switch to [ON].
- ② Press the drive mode button until appears on the LCD panel.



2 Shooting consecutive frames

- ① Depress the shutter release button halfway down to focus the subject.
- ② Depress and hold down the shutter release button completely.
- ③ To stop taking consecutive pictures, take your finger off the shutter release button.



The shutter cannot be released while the built-in flash is being charged.

MULTIPLE EXPOSURES ON A SINGLE FRAME

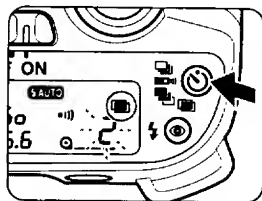
Picture can be exposed on the same frame multiple times. For example, you first take a picture of a dark background, then use flash to photograph someone on the same frame.



1 Setting the multi-exposure mode

- ① Turn the main switch to ON.
- ② Press the drive mode button until [] appears on the LCD panel.

The frame counter will blink.



2 Using the multi-exposure mode

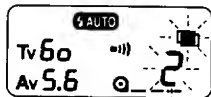
- ① Take the first picture.
The frame counter and [] on the LCD panel blink.
- ② Take the second picture.
The frame counter stops blinking and film is advanced to next frame then return to single frame drive mode [].



To exposed the third shot or more, press the drive button until [] appears after repeating step 1.




The multi-exposure mode remains in effect even after the main switch is turned [OFF]. To cancel the multi-exposure mode, remove the batteries once and load again.

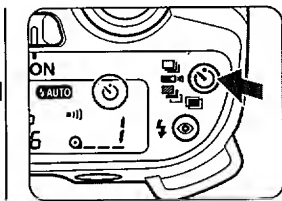


SELF-TIMER MODE

After you pressing the shutter release button, the picture will be taken about 12 sec. later. Use the self-timer when you want to be in the picture.

1 Setting the self-timer mode


- ① Turn the main switch to ON.
- ② Press the drive mode button until [] appears on the LCD panel.

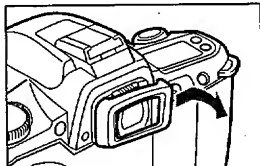


STEP UP
ADVANCED OPERATIONS

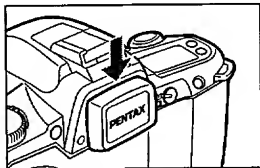


Preventing stray light from entering the eyepiece

Underexposure may occur if light enters the viewfinder during self-timer operation on auto picture mode and 6 picture modes. If you intend to move away from the viewfinder, attach the supplied finder cap or use AE lock function ( p.73).



Detaching Eyecup



Attaching the finder cap

2 Using the self-timer mode

- ① Depress the shutter release button halfway down to focus the subject.

- 2 **Depress the shutter release button completely.**

The shutter will be released about 12 seconds after the shutter release button is depressed. The audible PCV signal is heard and the rate increases for the last two seconds.

3 **Cancelling the self-timer mode**

- ① **Press the drive mode button to another setting.**

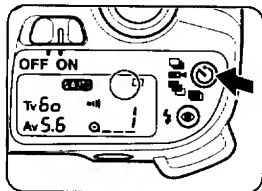
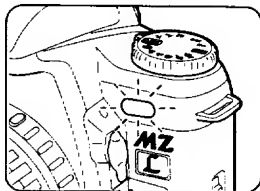
The self-timer mode is cancelled.



To stop the self-timer operation after it has been activated, press the drive mode button again.



The audible PCV signal can be stopped (see p.74).

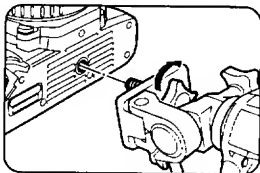



REMOTE CONTROL SHOOTING (OPTIONAL)

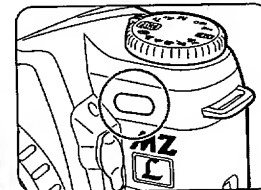
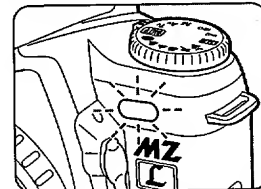
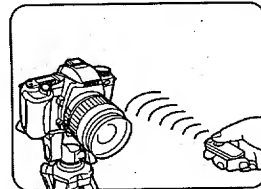
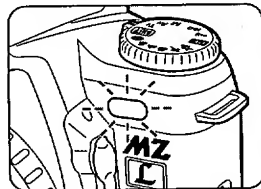
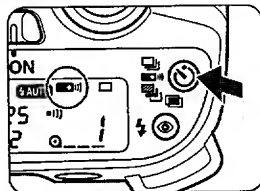
If you have purchased the optional wireless remote control, read this section.

The shutter will be released 3 seconds after the remote control's shutter release button is pressed.

- ① **Attach the camera to a tripod.**



- ② Press the drive mode button until [] appears on the LCD panel.
- ③ The self-timer lamp starts blinking slowly.
- ④ Aim the remote control transmitter towards the remote control receiver on the camera, and then press the shutter release button on the remote control.
- ⑤ The self-timer lamp blinks rapidly for 3 seconds and then the shutter is released.
- ⑥ When the picture is taken, the self-timer lamp lights for approx. 2 seconds and return to blink slowly.

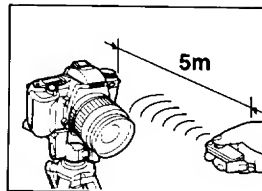


STEP UP

ADVANCED OPERATIONS



The operating distance of the wireless remote control is approx. 5m from in front of the camera.



- To cancel the remote control mode, press the drive mode button until [] disappears from LCD panel.
- To stop the remote control operation after it has been activated, press the drive button or turn the main switch off.
- Adjust the focus by pressing the shutter release button on the camera halfway down or manually and then press the remote control's release button.
- The remote control may not work in a backlit situation.
- The remote control does not work while the flash is being charged.
- When the remote control mode is left and is unused for 5 minutes, the single drive mode will be automatically set.



Battery life on the Remote Control

About 30,000 commands can be issued using the Remote Control. If the battery is exhausted, please have it replaced at your local Pentax Service center (there is a charge for this service).

AUTO BRACKETING

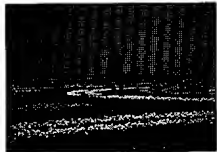
When you press the shutter release button, three consecutive frames will be taken at different exposures. The first frame is exposed with no compensation. The second frame is underexposed, and the third frame is overexposed. The initial bracketing amount is $\pm 1/2$ EV step.



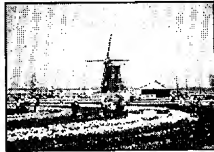
Auto bracketing amount can be set to $\pm 1/3$, $\pm 2/3$, ± 1 EV step with pentax Function. (p.113).



Exposure
with no compensation



-1/2 EV underexposure



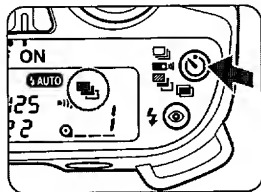
+1/2 EV overexposure



- If the exposure compensation amount is small, the effect will not be so noticeable with print film.

1 Setting the auto bracketing mode

- ① Turn the main switch to [ON].
- ② Press the drive mode button until [] appears on the LCD panel.



2 Using the auto bracketing mode

- ① **Press the shutter release button halfway down to focus the subject.**

The bar graph is displayed in the viewfinder and the current exposure compensation amount blinks.



- The focus is locked at the first picture and remains locked until all pictures are taken.

- ② **Hold down the shutter release button.**

In the viewfinder, the bar graph indicates the correct exposure for the first frame. For the second frame, it indicates the minus side for underexposure. For the third frame, it indicates the plus side for overexposure.

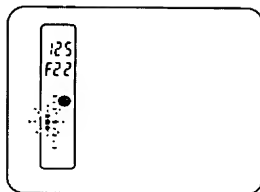


If you let go of the shutter release button during auto bracketing, the auto bracketing exposure setting will remain effective for about 20 sec. After that, the auto bracketing exposure for the first bracketed frame will take effect.



Taking pictures underexposed or overexposed only

You can use the auto bracketing mode for only underexposure or overexposure shots by combining the operation with exposure compensation. (p.71)



● **Taking pictures of overexposure only**

[$\pm 1/2$] step (EV)Set the exposure compensation to [$+1/2$].

1st frame= $+1/2$ EV, 2nd frame= ± 0 EV, 3rd frame= $+1$ EV

● **Taking pictures of underexposure only**

[$\pm 1/2$] step (EV)Set the exposure compensation to [$-1/2$].

1st frame= $-1/2$ EV, 2nd frame= -1 EV, 3rd frame= ± 0 EV



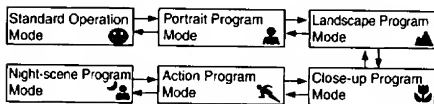
Only the amount of light of the flash can be changed continuously by using the auto bracketing mode following completion of charging of the built-in flash or external flash unit (TTL and P-TTL Auto only). However, in the case of an external flash unit, if three consecutive frames are taken while depressing the camera shutter button, the second and third frames may be taken prior to completion of charging. Always make sure to check completion of charging for each frame.

USING THE PICTURE MODE

The camera incorporates the Auto Picture Mode function. In this mode, the camera automatically selects the one of 5 picture modes depending on the camera-to-subject distance and the image magnification. You can also select your desired Picture Mode manually. The picture mode has a total of 6 modes as follows. See details for each mode on page 57 to 62.

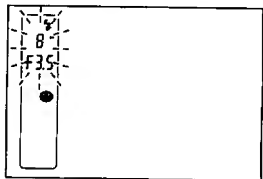
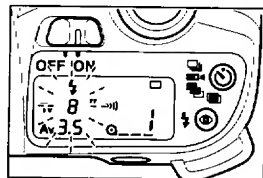
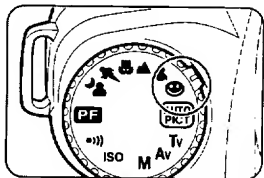
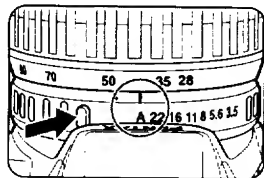
1 Set the lens aperture ring to [A].

2 Set the mode dial to the desired exposure mode.



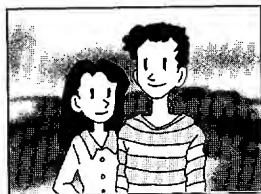
NOTE Exposure Warning

If the subject is too bright or too dark, the shutter speed and aperture setting in the viewfinder will blink. If the subject is too bright, use ND filter or select a darker subject. Use a flash if the subject is too dark.



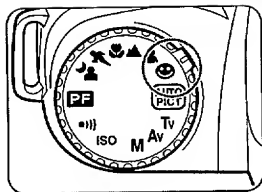
STANDARD OPERATION MODE ☺

For take a picture easily, use the Green Operation Mode. You simply depress the shutter release button. The camera selects the best combination of aperture and shutter speed setting.



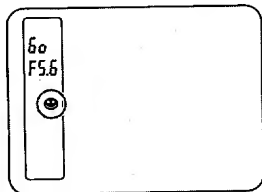
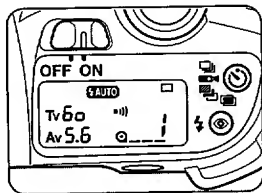
1 Set the mode dial to [☺].

[☺] on the mode dial lights up.



2 When the shutter release button is depressed halfway, the shutter speed and aperture setting are displayed in the viewfinder and on the LCD panel.

[☺] is also displayed in the viewfinder.

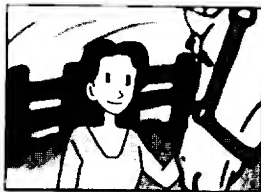




STEP UP

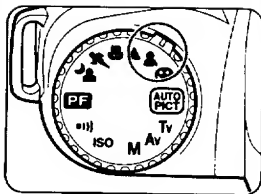
ADVANCED OPERATIONS

PORTRAIT PROGRAM MODE

This mode is suitable for taking portrait photography.

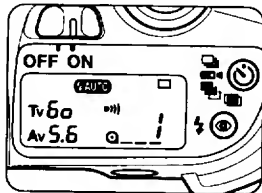


- 1** Set the mode dial to [].
[] on the mode dial lights up.

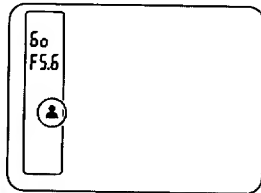


- 2** When the shutter release button is depressed halfway down, the shutter speed and aperture settings are displayed in the viewfinder and on the LCD panel.

[] is also displayed in the viewfinder.



In this mode, the telephoto lens produces a portrait in crisp focus against the out-of-focus background, while the wide angle lens enables you to shoot group photography or snapshots in sharp and clear focus with the extended depth-of-field.

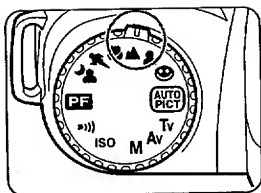


LANDSCAPE PROGRAM MODE ▲

This mode is ideal for landscape photography and scenic snapshots.



- 1 Set the mode dial to [▲].
[▲] on the mode dial lights up.

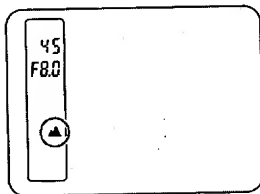
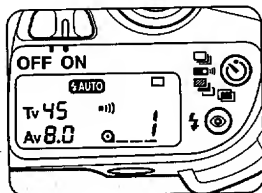


- 2 When the shutter release button is depressed halfway down, the shutter speed and aperture settings are displayed in the viewfinder and on the LCD panel.

[▲] is also displayed in the viewfinder.



When a photo of a landscape is taken in this mode, the resulting photograph will be in focus for the entire landscape, including objects close up and those in the distance.





STEP UP

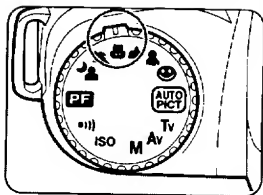
ADVANCED OPERATIONS

CLOSE-UP PROGRAM MODE

This mode is convenient when taking close-up photos of flowers and so forth.

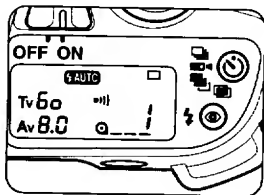


- 1** Set the mode dial to [].
[] on the mode dial lights up.

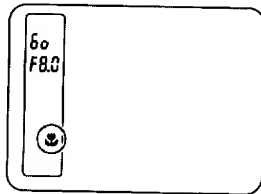


- 2** When the shutter release button is depressed halfway down, the shutter speed and aperture settings are displayed in the viewfinder and on the LCD panel.

[] is also displayed in the viewfinder.

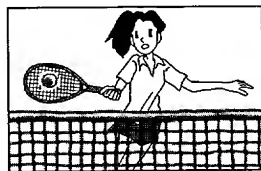




This mode favors smaller apertures to maximize the depth of field, ensuring sharp focus of a close-up subject.




ACTION PROGRAM MODE

This mode selects a faster shutter speed to capture a moving subject.



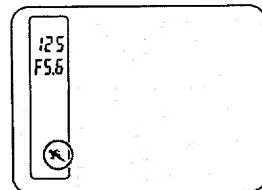
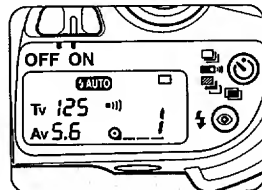
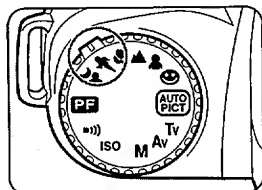
- 1 Set the mode dial to [].
[] on the mode dial lights up.

- 2 When the shutter release button is depressed halfway down, the shutter speed and aperture settings are displayed in the viewfinder and on the LCD panel.
[] is also displayed in the viewfinder.



This mode freezes the action and prevent blurred images. This mode is especially convenient for active photography. It is also suitable for portraits with blurred background.

This mode focuses the subject continuously when the shutter release button is depressed halfway down, and the shutter can be released even when the subject is in focus or out of focus.






STEP UP

ADVANCED OPERATIONS

NIGHT-SCENE PROGRAM MODE

This mode is useful when taking a portrait photograph with a night scene in the background.



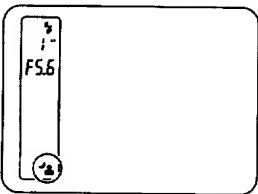
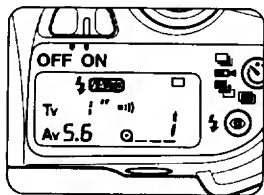
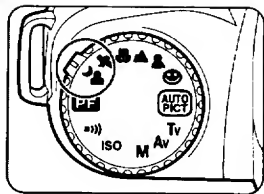
- 1** Set the mode dial to [].
[] on the mode dial lights up.
- 2** Set the auto pop-up flash on.
- 3** When the shutter release button is depressed halfway down, the shutter speed and aperture settings are displayed in the viewfinder and on the LCD panel.
[] is also displayed in the viewfinder.



It is possible to photograph subjects and background in a balanced way by using the flash to properly expose the foreground subject and a slow-speed to expose the low light background. The shutter speed automatically changes in the range of 1/100 to 1 second.

NOTE

- Use of a tripod is recommended.
- The Standard Operation Mode is automatically set when the built-in flash is not in use.



SELECTING AN EXPOSURE MODE

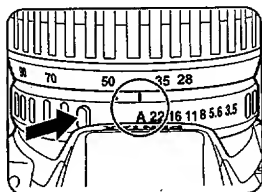
The exposure mode varies on the selection of the camera's mode dial and lens aperture ring setting as shown on the table below.

	Mode dial	AUTO PICT	⊙ ▲ ▲ ▲ ▲ ▲	TV	AV	M
Lens aperture	Lens aperture set to A position	Auto Picture AE	Picture Mode AE	Shutter-Priority AE	Aperture-Priority AE	Metered-Manual
	Lens aperture set to other than A	Aperture-Priority AE	Aperture-Priority AE	Aperture-Priority AE	Aperture-Priority AE	Metered-Manual

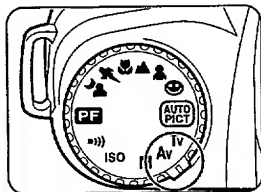
USING THE APERTURE-PRIORITY AE MODE

When the desired aperture is selected, an appropriate shutter speed is automatically set by the camera for a proper exposure. This mode is ideal for shooting landscapes with increased depth of field, or a portrait against a blurred background.

- 1 Set the lens aperture ring to [A] while pressing the aperture -A- lock bottom.



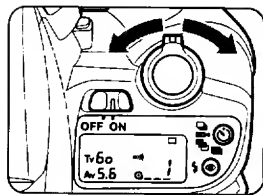
- 2 Set the mode dial to [Av]



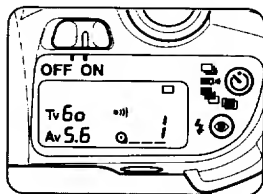
STEP UP






ADVANCED OPERATIONS

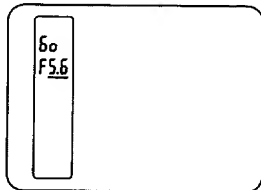
- 3** Select the desired aperture value by moving the select switch.



- 4** When the shutter release button is depressed halfway down, the shutter speed and aperture value will be displayed in the viewfinder and on the LCD panel.

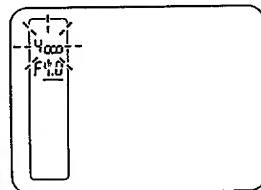
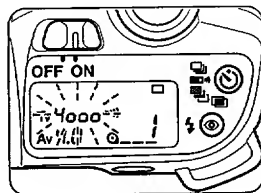


- The bar underneath the aperture value indicates that you can change the aperture setting by the select switch.
- The Aperture-Priority AE Mode can also set when the lens aperture ring is set to desired f-stop other than [A]. Set the mode dial to either [AUTO PICT], [], [], [], [] or [].
- The approximate aperture indication appears in the viewfinder. It may not the same indication as you select the lens aperture.
- The approximate aperture indication appears only an FA or F lens is attached.



NOTE Exposure Warning

If the subject is too bright or too dark, the selected shutter speed will blink in the viewfinder and on the LCD panel as a warning as shown. When the subject is too bright, choose a smaller aperture, if available; when it is too dark, choose a larger aperture, if available. When the shutter speed indication stops blinking, you can take the picture. If both shutter and aperture blink, it means that the exposure is out of metering range, unable to obtain a correct exposure even if the aperture is adjusted. Select a darker subject if it is too bright, or use a flash if it is too dark.



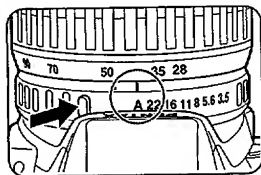
STEP UP

ADVANCED OPERATIONS

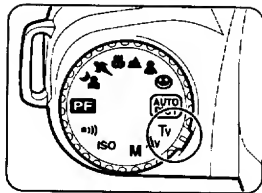
USING THE SHUTTER-PRIORITY AE MODE

When the desired shutter speed is selected, the appropriate aperture is automatically set by the camera for a proper exposure according to the brightness of the subject. This mode is suitable for freezing the action with a fast shutter speed or capturing a flowing dynamic image with a slow shutter speed.

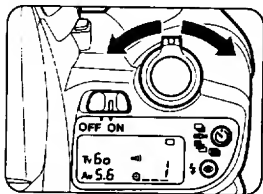
- 1** Set the lens aperture ring to [A] while pressing the aperture -A- lock button.



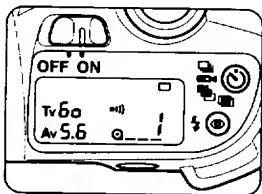
2 Set the mode dial to [Tv].



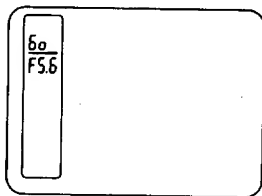
3 Select the desired shutter speed by moving the select switch.



4 When the shutter release button is depressed halfway down, the shutter speed and aperture value will be displayed in the viewfinder and on the LCD panel.

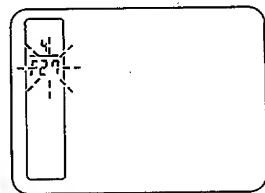
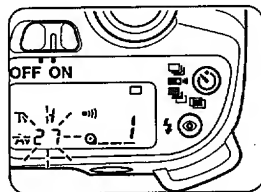


The bar underneath the shutter speed indicates that you can change the shutter speed setting.



NOTE Exposure Warning

If the subject is too bright or too dark, the selected aperture value will blink in the viewfinder and on the LCD panel as warning as shown. When the subject is too bright, choose a faster shutter speed. If it is too dark, choose a slower shutter speed. When the shutter speed indication stops blinking, you can take the picture. If both selected shutter speed and aperture blink, it means that the exposure is out of metering range, unable to obtain a correct exposure even if the shutter speed is adjusted. Select a darker subject if the subject is too bright. Use a flash if it is too dark.

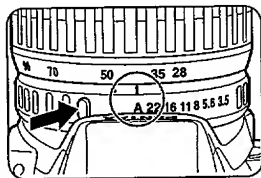


STEP UP ADVANCED OPERATIONS

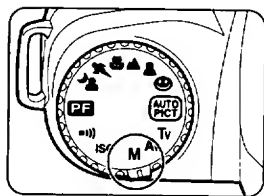
USING THE METERED MANUAL MODE

The manual exposure mode is a convenient exposure mode for taking pictures using the same shutter speed and aperture setting combination, or taking creatively under or overexposed photographs.

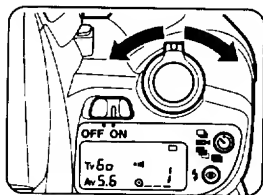
- 1** Set the lens aperture ring to **[A]** while pressing the aperture **-A-** lock button.



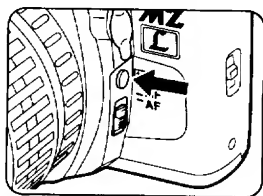
2 Set the mode dial to [M].



3 Move the select switch to change the shutter speed.

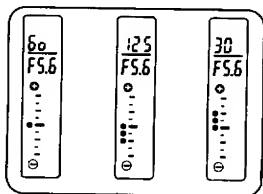


4 Move the select switch to change the aperture while holding the exposure compensation button.



5 The dot displayed in the center of the bar graph indicates the correct exposure.

Moving one dot on the bar graph indicates 0.5 step (0.5EV).

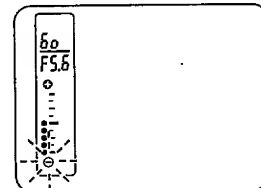
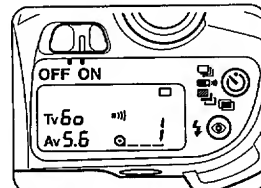
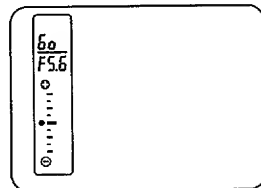
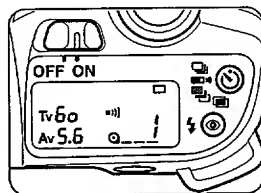


- 6** When the shutter release button is depressed halfway down, the shutter speed and aperture value will be displayed in the viewfinder and on the LCD panel.

- 7** When under or over exposure is set beyond + 2 or - 2 steps (2EV), [⊕] or [⊖] indicator will blink.



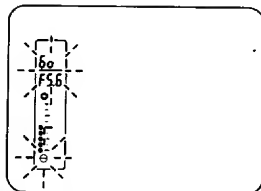
- The bar underneath the shutter speed indicates that you can change the shutter speed. With the exposure compensation button pressed, the bar appears underneath the aperture that indicates you can change the aperture value.
- The AE lock and exposure compensation do not work in the Metered Manual Mode.
- The metered manual mode can be used even if the aperture ring is not set to "A". Turn the lens aperture ring to select the desired aperture ring. Since the indication of aperture value inside the viewfinder only serves as a general reference, it may differ from the set aperture value.



- When lenses other than an F or FA lens is used, no approximate aperture indication will appear in the viewfinder.
- The indicator in the viewfinder turns to orange when the shutter speed changes to a slower shutter speed which causes camera shake.

NOTE Exposure Warning

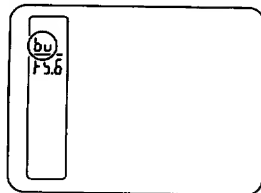
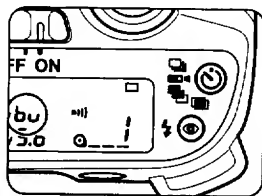
If the subject is too bright or too dark, both shutter speed, aperture setting and [+]/[-] will blink in the viewfinder as a warning as shown. It means that the exposure is out of metering range, unable to obtain a correct exposure even if the aperture is adjusted. Select a darker subject or use a flash if it is too dark.



USING THE BULB EXPOSURE MODE

This mode is useful for the long exposures required for shooting night scenes and fireworks. The shutter remains open as long as the shutter release button is held down.

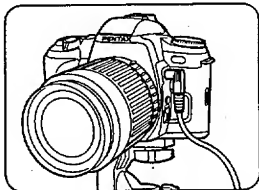
- ① With the Metered-Manual Mode set, move the select lever to change the shutter speed until [Bu] appears in the viewfinder and on the LCD panel.



- ② When using this mode, use a steady tripod to prevent camera shake and attach the optional "Cable Switch CS-205" after opening the release socket cap.



- Up to approx. 8 hours of time exposure are possible with new lithium batteries at ambient temperatures.
- With the remote control shooting mode set, the shutter remains open as long as the remote control's shutter release button held down.
- The indicator in the viewfinder turns to orange color.



STEP UP

ADVANCED OPERATIONS

ABOUT EXPOSURE COMPENSATION



The exposure compensation allows you to deliberately overexposure (brighten) or underexposure (darken) a subject, or compensate for difficult lighting conditions which may fool the camera's built-in exposure meter.





- Exposure compensation does not work in the Metered manual mode and Bulb Exposure Mode.

1 Setting the exposure compensation amount



- ① While holding down the exposure compensation button, move the select switch to set the desired compensation value on the LCD panel.

[>] is displayed on the LCD panel. The bar graph which indicates the compensation value and [>] appear in the viewfinder.

- ② The exposure compensation can also be confirmed in the viewfinder. When the dot is displayed to the [>] side, it indicates overexposure and when the dot is displayed to the [>] side, it indicates underexposure.

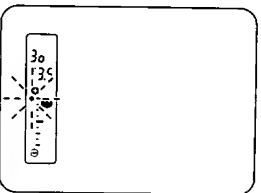
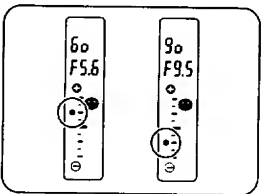
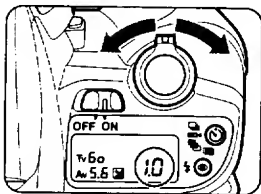
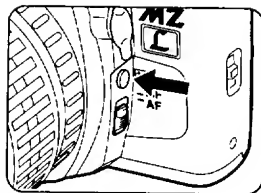
Moving one dot on the bar graph indicates 0.5 step (0.5EV).



When under or over exposure is set beyond +2 or -2 steps, [>] or [>] indicator will blink.



- The exposure compensation range is -3EV to +3EV in 0.5EV.
- Exposure compensation does not work in the metered manual mode and Bulb exposure mode.
- The exposure compensation cannot be canceled even if the power is turned OFF or any other exposure mode is set.



AE LOCK FUNCTION

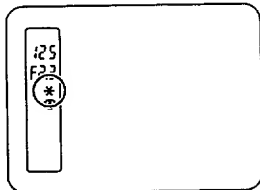
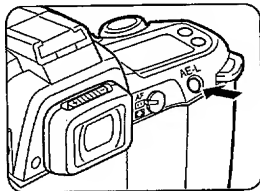
You can lock the exposure setting before you take the picture. If the subject is too small for a proper exposure setting to be obtained, you can zoom in on the subject to obtain a proper exposure setting. Then you can lock the exposure setting and recompose the shot before taking the picture.

1 Setting AE Lock

- ① Position the area to be measured in the viewfinder metering area and press the AE Lock button [AE-L].
- ② [*] is displayed in the viewfinder.



- The current exposure setting will be locked for about 20 sec.
- If the shutter release button or AE Lock button is pressed while the AE Lock timer is operating, the memorized meter reading will remain even if the finger is released from the button.
- When the AE lock button is depressed, the audible PCV signal is heard. This PCV signal can be turned off. See page 74.
- The auto pop-up built-in flash function does not work while the AE Lock is used.

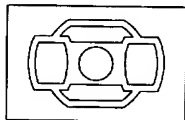


MULTI(6)-SEGMENT METERING

This mode automatically measures light in six different zones, enabling proper exposure value in a wide variety of normal and adverse lighting conditions.



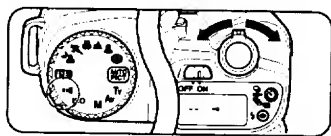
When a lens other than an A, F or FA lens is attached, the center-weighted metering mode is automatically set even if you select the multi-segment metering mode.



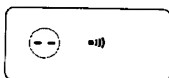
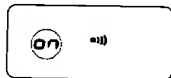
CANCEL THE AUDIBLE PCV SIGNAL

You can change the audible PCV signal on or off when the self-timer, remote control, AE Lock function is in use or when the focus is in-focus.

- 1 Set the mode dial to [M]



- 2 Move the select switch to display [ON] or [-] on the LCD panel.



The shutter cannot be released when the mode dial is set to [M]

ABOUT FOCUSING

The autofocus modes, and manual focus mode are explained here.

USING AUTOFOCUS

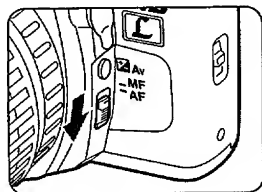


When the autofocus function or the viewfinder's focus indicator [●] cannot be used for focus confirmation for the following reasons, focus on the subject in the manual focus mode with the aid of the matte field in the viewfinder as you would with a non-AF SLR camera. (p.79)

- The focus indicator [●] is blinking. (The subject is difficult to autofocus.) (p.76)
- The maximum aperture of the lens in use is smaller than f/5.6.
- A bellows 100mm f/4 lens, Shift 28mm f/3.5 (shifted) lens, or Reflex lens is in use.
- An old type screw-mount lens fitted with an optional "Mount Adapter K" is in use.

1 Using the autofocus mode (AF)

- ① Set the focus mode switch to [AF].



2 Taking a picture

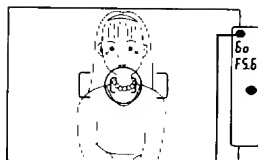
- ① Focus on the subject with the 3 point AF frame [[]].

When the shutter release button is depressed halfway down, the lens automatically focuses.

- ② When the shutter release button is depressed halfway down, the shutter speed, aperture setting and selected picture mode are displayed in the viewfinder and the LCD panel.

- ③ When the subject is in focus, the focus indicator [●] lights up and an audible PCV beeping signal is emitted.

- ④ Take a picture. Gently depress the shutter release button.



Focus indicator



- As this camera incorporates the 3- point autofocus system, the subject will be focused properly even if the subject is slightly off.
- The audible PCV signal can be turned off. p.74



The focus indicator [●] blinks when the camera is not able to obtain proper focus for one of the following reasons.

- ① The subject is too close. Adjust the camera-to-subject distance.
- ② The subject is difficult to autofocus. See "HARD-TO-AUTOFOCUS SUBJECTS" on page 77.



HARD-TO-AUTOFOCUS SUBJECTS

The autofocus system is highly precise, but not perfect. Depending on the brightness, contrast, shape, and size of your subject, the autofocus system may not operate. In this situation, use the focus-lock technique (p.80) or set the focus mode switch to [MF] and use the manual focus mode to focus the lens on the subject with the aid of the matte field in the viewfinder (p.79).

Subjects which may fool the autofocus system include:

- Extremely low-contrast subjects such as a white wall in the autofocus frame.
- Subjects which don't reflect much light in the autofocus frame.
- Subjects with complex or detailed patterns.
- Subjects which are moving too fast.
- Multiple subjects in the foreground and background of the autofocus frame.
- Subjects positioned against reflected light or strong backlight or with extremely bright backgrounds.



■ Notes on accessories

The following conditions do not allow autofocus or manual focusing with the focus indicator in the viewfinder. Use the manual focus mode to focus on the subject with the aid of the matte field surrounding the autofocus frame. (p.79)

- When using Stereo Adapter.
- When using Extension Tubes or an Auto Bellows for close-up photography.
- When using an ordinary polarizing filter; the half mirror incorporated into the autofocus system reduces the effectiveness of the autofocus function when used in combination with an ordinary polarizing filter. Use a CIRCULAR POLARIZING FILTER for proper autofocus operation.

■ Note on the SMC Pentax SOFT 85mm/f2.8 lens

When shooting at a distance closer than approx. 1.5m (4.9ft), set the lens to a manual f-stop setting between f/2.8 and f/4.5. A smaller aperture (f/5.6 to f/32) may cause the autofocus system and the viewfinder's focus indicator to malfunction. To remedy this problem, temporarily set the lens to f/4.5. After focusing on the subject, lock focus, and set the lens to the required f-stop.



Memo

Using the snap-in focus function

When the subject comes to the point where the lens was pre-focused, the shutter is automatically released.

- ① Use a non-autofocus lens.
- ② Set the focus mode switch to [AF].
- ③ Focus at the point where you wish to capture the subject.
- ④ Using optional cable switch, keep the trigger button pressed so that the autofocus and metering systems stay active.

The shutter will be released automatically when the subject comes into focus at the point selected.

MANUAL FOCUSING

When you focus manually, you can either look at the focus indicator [●] or the viewfinder's matte field to check if the subject is in focus.

◆ Using the focus indicator [●]



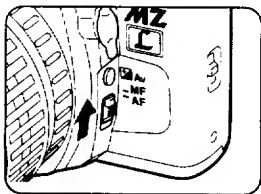
Memo

If the maximum aperture of the attached lens is $f/5.6$ or larger ($f/1.2 - f/5.6$), you can use the focus indicator [●] as a guide to achieve focus. With slower lenses, adjust a focus on the matte screen in the viewfinder.

1

Setting manual focus (MF)

- ① Set the focus mode switch to [MF].



2 Focusing

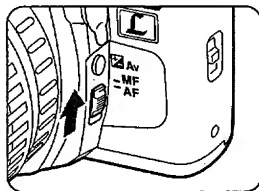
- ① Frame the subject, then press the shutter release button halfway down.
- ② Turn the focusing ring on the lens until the subject is in focus.
When focus is achieved, the focus indicator [●] lights and the audible PCV signal beeps.
- ③ Check that the focus indicator [●] is lit, then press the shutter release button completely.



◆ Using the viewfinder's matte screen.

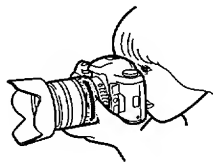
1 Setting manual focus (MF)

- ① Set the focus mode switch to [MF].



2 Focus the subject

- ① Frame the subject, then turn the focusing ring on the lens until the subject is in focus.
Focus until the subject looks sharp in the viewfinder.
- ② Check that the subject is in sharp focus, then depress the shutter release button completely.



SPOT AF MODE

Select the Spot AF Mode to critically focus on a specific spot of the subject which is in the Spot AF autofocus frame.

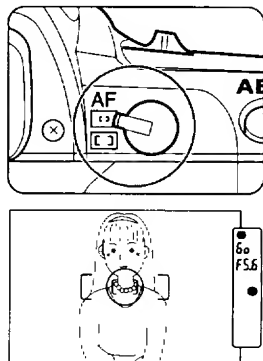
1 Using the Spot AF Mode

① Set the AF mode switch to [[]].

② Focus on the subject with the spot AF frame and press the shutter release button halfway down, the lens automatically focuses.



If the subject is not covered with the AF frame, the camera cannot automatically focus on the subject. In this situation, use the focus lock technique.

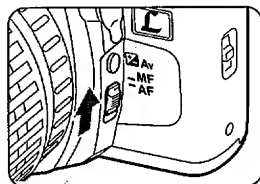


USING FOCUS LOCK

If the subject is not covered by any of the focus points, the camera cannot automatically focus the subject. In this situation, you can aim the focus point on the subject, use focus lock, then recompose the picture.

1 Setting the autofocus mode

- ① Set the focus mode switch to [AF].

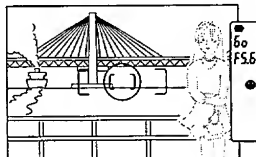


2 Using focus lock

- ① Frame the subject. If the subject you want to focus is not on any of the focus is not on the AF frame, you can use focus lock.

Figure to the right shows the person is not focused and the background is focused instead.

The desired framing

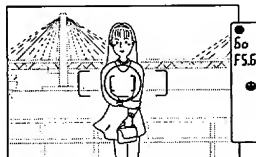


- ② Aim the center of the viewfinder over the subject, then press the shutter release button halfway down.

While the focus indicator [●] is lit, the focus will be locked (focus lock).



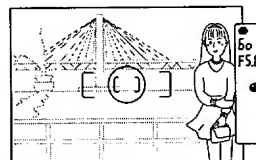
- You can lock the focus by pressing the shutter release button halfway down
- Rotating the zooming ring in focus lock mode may cause the subject out of focus.



Aim the center of the viewfinder over the subject, then press the shutter release button halfway.

- ③ Re-compose the picture while pressing the shutter release button halfway down.

- ④ Check that the focus indicator [●] is lit in the viewfinder, then press the shutter release button completely.



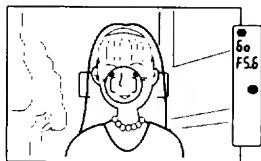
The person is focused.

PREVIEWING THE DEPTH OF FIELD

Before taking a picture, you can check the depth of field in the viewfinder.

1 Focusing the subject.

- ① Adjust focus to the subject.



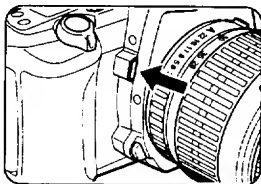
2 Previewing the depth of field

- ① While looking through the viewfinder, press the preview button.

You can check the focused area in the viewfinder.



- The depth of field can be previewed in any exposure mode.
- The focus range display in the viewfinder may differ slightly from the actual picture.



EFFECT OF APERTURE AND SHUTTER SPEED

A correct exposure is established by a combination of shutter speed and aperture setting according to the subject brightness. There are many correct combinations of shutter speed and aperture for a particular subject brightness. Different shutter speed and aperture settings produce different effects.

◆ Effect of Shutter Speed

The shutter speed determines the film exposure time, or the length of time that light is allowed to strike the film. If the subject is moving, the image will be blurred when a slow shutter speed is used. It is possible to enhance the effect of motion, (The movement of a wave or waterfall) by intentionally using a slower speed. Choosing a faster shutter speed will allow the image of a moving subject to be frozen. A faster shutter speed also helps prevent camera shake.

◆ Effect of Aperture

The aperture increases or reduces the amount of reflected light from an object which passes through the lens, controlling how much light strikes the film. If the aperture is opened up to increase the amount of light, objects in front of and behind an in-focus subject will not be focused. That is, the range of focus (depth of field) becomes small. If the aperture is closed down to reduce the amount of light, the depth of field increases. For instance, if you shoot a person against a landscape with the aperture open, the landscape in front of and behind the person will be blurred, making the person appear to rise out of the landscape. By contrast, closing down the aperture increases the in-focus range.



faster shutter speed



slower shutter speed



closed down aperture



open aperture

STEP UP

FLASH PHOTOGRAPHY

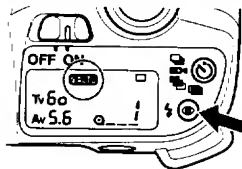
USING THE BUILT-IN FLASH	86
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USING THE BUILT-IN FLASH

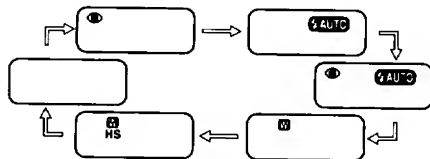
This section explains how to set the built-in flash modes and notes concerning the built-in flash.


SETTING THE FLASH MODE

Press the flash mode button until the desired flash mode appears on the LCD panel.



The flash mode will be displayed on the LCD panel as shown below.



- Auto pop-up flash [] can only be selected in the Auto Picture Mode and Picture Mode.



Flash mode display

The flash fires in accordance with the flash mode indicated on the LCD panel.

Icon displayed	Flash mode	Flash status
	Flash ON	Flash fires when you press the shutter release button.
	Flash ON + Red-eye reduction	When the flash is fired in the flash ON mode, red-eye reduction takes effect.*1
	Auto pop-up	If the Auto Picture Mode or Picture Mode is set, the flash pops up automatically when necessary.
	Auto Pop-up + Red eye reduction	When the flash is fired in the auto-pop up flash mode, red-eye reduction takes effect.*1, *2
	Wireless	Set when using a dedicated wireless flash. p.100
	Wireless + High-speed sync	Set when using high-speed sync with a dedicated wireless flash. p.99

*1: If red-eye reduction is used while the AF360FGZ, etc. is set as a slave unit, the preflash for red-eye reduction will trigger the slave unit to fire. When using a slave unit, do not use red-eye reduction.

*2: The auto pop-up mode will work in any mode except Auto Picture Mode or Picture Mode. (p.86).



Reducing Red Eye

Red eye occurs in flash pictures when the flash reflects off the eye's retina. Although red eye cannot be totally prevented, it can be reduced by the following methods:

- Take the picture in a well-lit place.
- When using a zoom lens, use the wide-angle end and a close distance.
- If you are using an external flash unit, keep it apart from the camera lens as far as possible.

ADVANCED TECHNIQUES WITH THE BUILT-IN FLASH

This section explains how to calculate the built-in flash's effective range and the compatibility with F and FA lenses.

◆ Calculating the flash effective distance according to the camera-to-subject distance.

Calculate the effective flash range as follows:

For far distances Guide No. \div Current aperture

For near distances Far distance result $\div 5^{*1}$

*1: This formula using "5" as the divider applies only to the built-in flash.



The flash cannot be used at distances shorter than 0.7 m. Doing so will result in irregular or obstructed flash coverage and flash overexposure.

The Guide No. will be as follows depending on the ISO film speed.

ISO Film Speed	Guide No.
ISO25	5.5
ISO50	7.8
ISO100	11
ISO200	15.6
ISO400	22

With ISO 100 film and an f/2.8 aperture, calculate the effective flash range as follows:

For far distances Guide No. $11 \div f/2.8 =$ approx. 3.9 m

For near distances $3.9 \div 5 =$ approx. 0.8

The effective flash range is therefore approx. 0.9 m - 4.3 m.



Calculating the flash aperture from the effective flash range

Use the effective flash range to calculate the flash aperture as follows:

Guide No. \div flash range = Flash aperture

If the result is a number (such as 3) that is not a lens aperture value, set it to the next smaller aperture value (2.8).

◆ F and FA Lens Compatibility with the Built-in Flash

The compatibility of F and FA lenses with the built-in flash is explained here.



If an F or FA lens incompatible with the built-in flash is used, depressing the shutter release button halfway down when the flash is ready will have the [*] blink on the LCD panel and in the viewfinder as a warning. (p.32)
If you take a flash picture with an incompatible lens, the corners of the picture may look dark or there may be a dark, semi-circular area on the lower part of the picture

F and FA Lens Compatibility with the Built-in Flash

○ = Compatible △ = Vignetting will occur under the usage conditions

× = Incompatible because of vignetting

Lens name	Compatibility
F Zoom 17-28mm f/3.5-4.5	×
FA Zoom 20-35mm f/4AL	△ Vignetting will occur at focal length between 20-24mm.
FA Zoom 24-90mm f/3.5-4.5AL (IF)	△ Vignetting may occur if the focal length is 24-28mm.
FA* Zoom 28-70mm f/2.8AL	△ Vignetting may occur if the focal length is less than 35 mm or the camera-to-subject distance is closer than 1 m with the focal length of 40 mm.
FA Zoom 28-70mm f/4AL	○
FA Zoom 28-90mm f3.5-5.6	○
FA Zoom 28-105mm f/3.2-4.5 AL (IF)	○
FA Zoom 28-200mm f/3.8-5.6AL (IF)	△ Vignetting may occur if the focal length is 28 mm or the camera-to-subject distance is closer than 1 m with the focal length of 35 mm.

Lens name	Compatibility
F or FA Zoom 35-80mm f/4-5.6	○
FA Zoom 70-200mm f/4-5.6	○
FA* Zoom 80-200mm f/2.8 ED (IF)	○
F or FA Zoom 80-200mm f/4.7-5.6	○
FA Zoom 80-320mm f/4.5-5.6	○
F or FA Zoom 100-300mm f/4.5-5.6	○
FA Zoom 100-300mm f/4.7-5.8	○
FA* Zoom 250-600mm f/5.6ED(IF)	×
FA 20mm f/2.8	×
FA* 24mm f/2 AL(IF)	×
FA 28mm f/2.8	○
FA 31mm f/1.8 AL Limited	○
FA 35mm f/2AL	○
FA 43mm f/1.9 Limited	○
FA 50mm f/1.4, f/1.7	○
FA 77mm f/1.8 Limited	○
FA* 85mm f/1.4 (IF)	○
FA 135mm f/2.8 (IF)	○
FA* 200mm f/2.8 ED (IF)	○
FA* 300mm f/2.8 ED (IF)	×
FA* 300mm f/4.5 ED (IF)	○
FA* 400mm f/5.6 ED (IF)	○
FA* 600mm f/4 ED (IF)	×
FA Macro 50mm f/2.8	○
FA Macro 100mm f/2.8	○
FA Macro 100mm f/3.5	○
FA* Macro 200mm f/4.0 ED (IF)	○
FA Soft 28mm f/2.8	○
FA Soft 85mm f/2.8	○

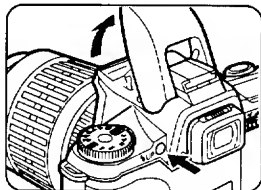
STEP UP


FLASH PHOTOGRAPHY

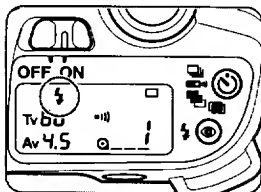
POP-UP THE BUILT-IN FLASH MANUALLY

- 1** Push the flash pop-up button to activate the flash.

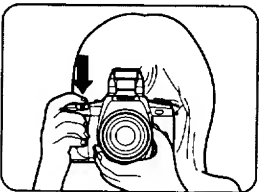
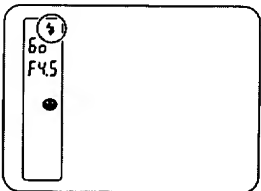
[ AUTO] disappears from the LCD panel.



- 2** The built-in flash starts charging automatically. When it is fully charged, [] appears on the LCD panel.



- 3** Focus the subject and take a picture.




- 4** After using the flash, retract the built-in flash by pressing it down into the camera body.

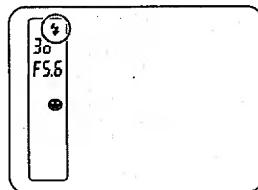
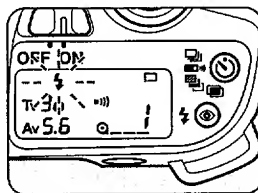
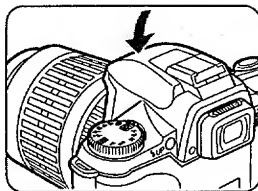


- The flash is always discharged even if the subject is not required flash light.
- The shutter cannot be released until the flash is fully charged.
- If the built in flash is used continuously, the battery may become warm, but it does not mean the battery is faulty; it is one of the battery's characteristics.
- When the built-in flash is used, using a lens hood is NOT recommended as it may obstruct the path of the light coming from the flash, causing vignetting in the picture corners.
- With the built-in flash popped-up, an external flash cannot be attached to the hot shoe. If you would like to use an external flash together with the built-in flash, see the flash connections on page 102.
- If the flash pop-up button is pressed while the flash is popped up, the camera enters the Flash ON mode in which the built-in flash discharges at all times.



Flash recommended information

The flash-recommended indicator [] on the LCD panel blinks and the indicator in the viewfinder turns to orange color when you attempt to photograph a subject in low light to warn you the camera shake.





- In the Shutter-Priority AE Mode and Metered-Manual Mode, the flash-recommended indicator blinks only when attempting to photograph a subject in a backlit situation.
- The indicator in the viewfinder turns to green when the flash is fully charged.

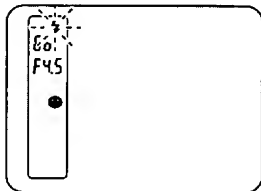
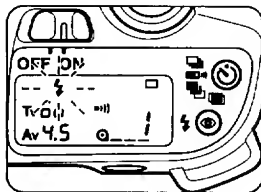


NOTE Inappropriate lens warning when the built-in flash is used

When using an inappropriate F- or FA-lens, [] will blink in the viewfinder and on the LCD panel when the shutter release button is depressed halfway down. For more details on COMPATIBILITY OF F AND FA LENSES WITH THE BUILT-IN FLASH, see page 90, 91.



- Taking a picture while this warning is displayed may cause vignetting in the picture corners or semi-circular vignetting at the bottom of the picture.
- When lenses other than an F or FA are used, this warning will not appear.






USING EXTERNAL FLASH

When the built-in flash cannot provide enough illumination, use a Pentax-dedicated. With an external flash unit, TTL auto wireless flash and high-speed sync photograph can be taken with AF360FGZ.

FLASH FUNCTIONS

The features available with the built-in flash or a dedicated, external flash are described below.

Check which type your external flash unit is and see which functions it has.

Camera Functions	TYPE A	TYPE B	TYPE C	TYPE D	TYPE E	TYPE F
Red-eye reduction	○	○	○	×	○ ^{*1}	×
Automatic firing of the flash	○	○	○	○	○	○
When the flash is ready, the camera switches to the flash sync speed automatically.	○	○	○	○	○	○
Auto Picture Mode, Picture Mode or Shutter-priority AE mode, the aperture is set automatically.	○	○	○	○	○ ^{*2}	○ ^{*2}
Flash confirmation in the viewfinder	×	○	○	○	×	×
TTL auto flash  p.97	○	○ ^{*4}	○	○	○ ^{*3}	×
P-TTL auto flash  p.96	×	○ ^{*5}	×	×	×	×
Slow-speed sync  p.105	○	○	○	○	○	○
AF illuminator	○	○	○	○	×	×
Trailing shutter curtain sync flash ^{*6}	○ ^{*7}	○	○	○	×	×
Contrast-control-sync flash mode ^{*8}	×	○	○	×	×	×
Multiple-burst flash, slave flash	×	○	○ ^{*9}	×	×	×
High-speed sync	×	○	×	×	×	×
Wireless flash	×	○	×	×	×	×

STEP UP

FLASH PHOTOGRAPHY

TYPE A: Built-in flash

TYPE B: AF360FGZ

TYPE C: AF500FTZ, AF330FTZ

TYPE D: AF400FTZ, AF240FT

TYPE E: AF400T, AF280T, AF220T, AF200T, AF080C, AF140C, AF201SA

TYPE F: AF200S, AF160, AF140

*1: Available with the AF280T and AF400T, only when the flash confirmation indicator in the viewfinder is off and TTL auto is set.

*2: With Type E flash units (except AF201SA), use the MS (Manual Sync) or M (Manual) mode. With Type F flash units, use Aperture-Priority AE, manual, or bulb. Picture mode and Shutter-Priority AE cannot be used because the aperture changes.

*3: With the AF201SA, TTL auto cannot be used.

*4: With Pentax A, F and FA lenses, P-TTL auto flash can be used.

*5: With Pentax A, F and FA lenses.

*6: The shutter speed will be 1/60 sec. or slower.

*7: With Type B or C, and D flash units, trailing shutter curtain sync flash is possible.

*8: The shutter speed will be 1/60 sec. or slower.

*9: Exception of AF330FTZ.

USING P-TTL AUTO FLASH MODE

The optimum flash amount is fired to match the subject brightness.

P-TTL auto flash, which pre-fires the flash using the six-segment metering, allows more precise control.

P-TTL is available with external wireless flash.




P-TTL auto flash is only available in combination with the AF360FGZ.

1

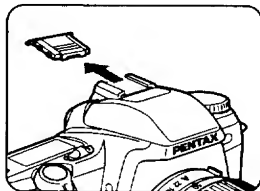
Attaching the flash unit

- 1 Remove the hot shoe cover Fk from the camera.



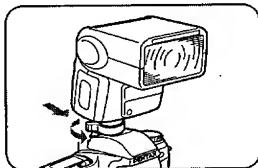
Store the hot shoe cover in the strap's pocket.  p.12

- 2 Attach the flash unit to hot shoe.



2 Set the flash unit to P-TTL auto mode

- ① Turn on the flash unit's power switch.
- ② Set the flash mode switch to P-TTL auto.



- With the AF360FGZ, the flash mode is always set to P-TTL auto; with any other flash unit, it is set to TTL auto.
- For instructions on how to operate the flash unit, refer to the flash unit's operating manual.

3 Taking a flash picture

- ① Check that the flash is ready.
- ② Focus the subject and take the picture.



- When the flash is ready (fully charged), the [⚡] will light in the viewfinder when the shutter release button is depressed halfway down.
- An external flash can also be made to automatically fire. Note that the flash will not fire against a lighter subject especially during daytime sync shooting.

USING HIGH-SPEED SYNC WITH THE AF360FGZ

With the AF360FGZ, you can use a flash sync speed faster than 1/125 sec. High-speed sync mode can also be used while the flash unit is attached to the camera or in a wireless configuration.

With high-speed sync.




◆ Using High-speed sync Flash on the Camera

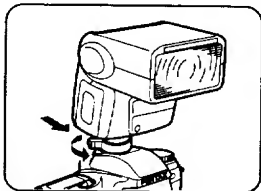
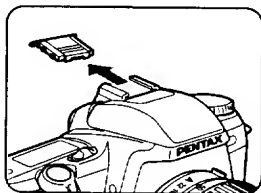
1 Attaching the flash unit

- ① Remove the Hot Shoe Cover Fk from the camera.



Store the Hot Shoe Cover in the strap's pocket.  p.12

- ② Attach the flash unit to hot shoe.



2 Set the flash unit to the HS mode.

- ① Set the flash unit's sync mode switch to HS (high-speed sync).




For instructions on how to operate the flash unit, refer to the flash unit's operating manual.

3 Taking a picture.

- ① Check that the flash is ready.
- ② Focus the subject and take the picture.



- When the flash is ready (fully charged), the [] will light in the viewfinder when the shutter release button is depressed halfway down.
- The high-speed sync is only available when the shutter speed is faster than 1/125 sec.
- The high-speed sync flash mode does not work in the Auto Picture Mode and Picture Mode.

◆ Using Wireless high-speed sync flash

1 Positioning the flash

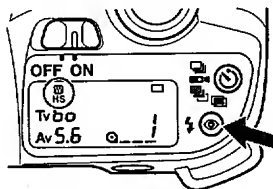
- ① Place the flash unit at the desired location.
- ② Set the flash unit's power switch to [WIRELESS].
- ③ Set the flash unit's sync mode switch to HS (high-speed sync).
- ④ Set the wireless mode switch to S (Slave).



- For instructions on how to operate the flash unit, refer to the flash unit's operating manual.
- For wireless Flash, refer to page 100.

2 Set the camera to the HS mode.

- ① Press the flash pop-up button to enable the built-in flash to be used.
- ② press the flash mode button until [W HS] is displayed.




- ③ Check that both the built-in flash and external flash unit are ready.
- ④ Focus the subject and take the picture.



- When the built-in flash is ready (fully charged), the [4] will light in the viewfinder when the shutter release button is depressed halfway down.
- The high-speed sync is only available when the shutter speed is faster than 1/125 sec.

WIRELESS FLASH (AF360FGZ ONLY)

With the AF360FGZ, you can fire a flash without having a cord connection between the camera and flash unit. The high-speed sync mode can also be used with wireless flash.  p.99

1 Positioning the flash

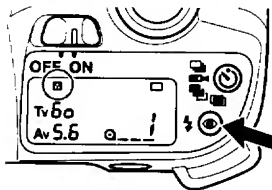
- ① Place the flash unit at the desired location.
- ② Set the flash unit's power switch to [WIRELESS].
- ③ Set the wireless mode switch to S (Slave).



For instructions on how to operate the flash unit, refer to the flash unit's operating manual.


2 Set the camera to the wireless mode.

- ① Press the flash pop-up button to enable the built-in flash to be used.
- ② Press the flash mode button until [W] is displayed.



- ③ Check that both the built-in flash and external flash unit are ready.
- ④ Focus the subject and take the picture.



When the built-in flash is ready (fully charged), the [] will light in the viewfinder when the shutter release button is depressed halfway down.



Wireless Flash Control (P-TTL flash mode)

When the AF360FGZ is used for wireless flash, the following process is executed between the built-in flash and AF360FGZ before the flash is fired.

Depress the shutter release button completely.

- ① The built-in flash fires a pre-flash (the camera's flash mode is transmitted).
- ② The external flash unit fires a pre-flash (the subject's lighting condition is checked).
- ③ The built-in flash fires a pre-flash (the required flash output is transmitted to the external flash).
 - * If HS (high-speed sync) has also been set, the built-in flash will fire another pre-flash to transmit the flash duration time.
- ④ The AF360FGZ Flash unit fires the flash.



Channel Control

For wireless control, channel (e.g. CH1) for the AF360FGZ must be set on the camera. Attach the AF360FGZ to the camera, turning on the camera and depressing the shutter release button halfway down.

USING BOTH THE BUILT-IN FLASH AND EXTERNAL FLASH

To use both the built-in flash and dedicated external flash simultaneously, follow the procedure below.


To use both the built-in flash and a dedicated external flash simultaneously, the following accessories (sold separately) are required.

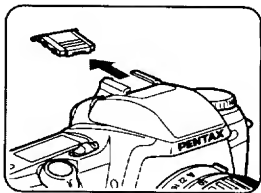
Hot Shoe Adapter FG, Off-Camera Shoe Adapter F,
Extension Cord F5P

1 Attaching the flash unit

- 1 Remove the Hot Shoe Cover Fk from the camera.



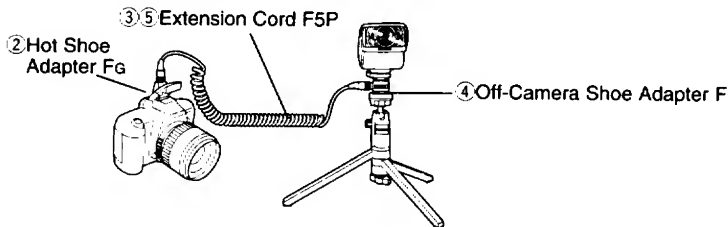
Store the hot shoe cover in the strap's pocket.  p.12



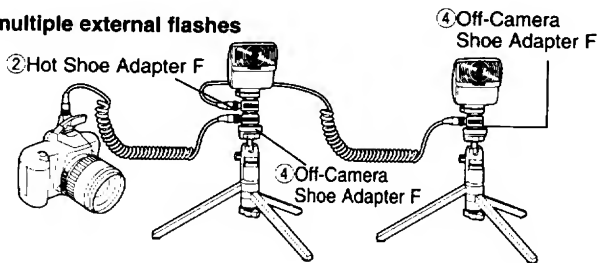
- 2 Attach the Hot Shoe Adapter Fg to the camera.
- 3 Connect the Extension Cord F5P to the Hot Shoe Adapter FG.
- 4 Attach the Off-Camera Shoe Adapter F to a tripod.
- 5 Connect the Extension Cord F5P to the Off-Camera Shoe Adapter F.
- 6 Attaching a Flash Unit to the Off-Camera Shoe Adapter F.
- 7 Press the flash pop-up button.



The AF500FTZ can be connected directly to Extension Cord F5P without requiring Off-Camera Shoe Adapter F.



• Using multiple external flashes



USING CONTRAST-CONTROL-SYNC FLASH MODE

Using the dedicated external flash in combination with the built-in flash allows twin flash photography (contrast-control-synch flash photography). This is based on the difference between the amount of light discharged from two units.



Contrast-control-synch flash is possible with the combination of following flash units: AF360FGZ, AF330FTZ, AF500FTZ, and the built-in flash.

◆ Using the built-in flash and a dedicated external flash.

1

Positioning the flash unit

- ① Place the flash unit apart from the camera.



Do not use accessories (such as a hot shoe grip) having a different number of contacts. It may cause the TTL auto flash to function improperly.

- ② Set the flash unit's sync mode to Contrast-control-synch.



For instructions on how to set the sync mode, refer to the flash unit's operating manual.

2

Taking a picture

- ① Press the flash pop-up button to enable the built-in flash to be used.
- ② Check that the flash is ready.
- ③ Focus the subject and take the picture.



- Between the built-in flash and external flash, the flash ratio will be 1:2 respectively (summed up when the external flashes are more than one).
- When the contrast-control-sync flash mode is used, the maximum flash sync speed will be 1/60 sec.

◆ Using Multiple External Flash Units (with no built-in flash)

1

Setting the flash units

- ① Set up the external flash units apart from the camera.



If a hot shoe grip is used, would cause the TTL metering to function improperly. For instructions for connection, see p.102

- ② Set the required flash units' sync mode to Contrast-Control-Sync Flash mode.



Output ratio of the flash is 2 for contrast-control-sync mode to 1 for the other flash mode.

For instructions on how to set the contrast-control-sync mode, refer to the flash unit's operating manual.

2

Taking a picture

- ① Check that all of flash units are ready.
- ② Focus the subject and take the picture.



External multiple sync flashes

Note the following when you use two or more flashes in sync.

- Use the flashes in the following combinations referring to the "Flash functions" (p.95).
 - Combine the same type (Type B to F) of flashes.
 - If you use different type combination of flashes, combine Type C and Type D or Type E and Type F.
- Any type of combinations of the built-in flashes can be used.

USING SLOW-SPEED SYNC

When you photograph someone in front of a sunset or dark background, using slow-speed sync flash will result in the proper exposure of both the subject and background. Slow-speed sync can be set with the built-in flash or with any dedicated external flash unit.



With slow-speed sync, a slow shutter speed is used. Use a tripod to prevent camera shake.

◆ Using Metered Manual Mode

1 Setting the flash unit

- ① If you will use the built-in flash, press the flash pop-up button.



If you will use an external flash, turn on the power.

2 Setting the Metered Manual Mode

- ① Turn the lens aperture ring to set the aperture value.
② Set the shutter speed. p.67




Check that the flash is ready and that the flash exposure setting is correct.

- ③ Focus the subject and take the picture.

◆ Using Shutter-Priority AE

1 Setting the Shutter-Priority AE Mode

 refer to page 65

2 Setting the Flash unit



Do not turn on the power of the built-in flash or external flash before setting step 1 above. Otherwise, the background may not be exposed properly.

① If you will use the built-in flash, press the flash pop-up button.



If you will use an external flash, turn on the power.

3 Focus the subject and take the picture.

PRECAUTIONS FOR USING FLASH

Cautions for using flash are explained below.

◆ Using the built-in flash and a dedicated external flash

- If you use the built-in flash and a Pentax-dedicated external flash simultaneously and set the external flash to trailing shutter curtain sync, the built-in flash will also be set to trailing shutter curtain sync.
- Before taking the picture, make sure both the built-in flash and external flash are ready (fully charged).

◆ Using a non-Pentax flash unit

- Using a non-Pentax flash unit may cause a malfunction. Pentax-dedicated flash units are recommended.
- When using studio type flash with the camera, note the polarity of the flash contacts. Some studio type flash units may have reversed polarity which will not work with the camera. For details, consult the manufacturer of the flash.
- When using studio type flash, set a flash sync speed one stop slower than the camera's normal sync speed. This is to prevent a partial flash exposure (part of the picture looks dark).

STEP UP












FLASH PHOTOGRAPHY

APPENDIX

PENTAX FUNCTIONS	110
BASIC SETTING OF PENTAX FUNCTIONS	111
SETTING A PENTAX FUNCTIONS	113
CAMERA FUNCTIONS AVAILABLE WITH VARIOUS LENSES	117
ACCESSORIES (OPTIONAL)	119
PROGRAM DIAGRAMS	122
TROUBLE SHOOTING	125
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PENTAX FUNCTIONS

The camera provides 11 Pentax Functions so you can set the camera according to your shooting preferences.

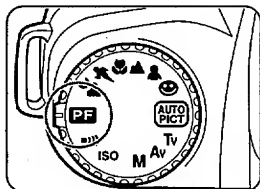
[F1]	Selection of range of auto bracketing correction value	 p.113
[F2]	Selection of re-set to single frame after auto bracketing exposure	 p.113
[F3]	Selection of shutter release delay time with the remote controller	 p.114
[F4]	Selection of whether or not auto focusing is used during remote control photography	 p.114
[F5]	Selection of the metering method with AE lock	 p.114
[F6]	Selection of whether or not AE lock is used when the subject is in focus.	 p.115
[F7]	Selection of autofocus method in the action program mode	 p.115
[F8]	Selection of illumination method of the LCD panel	 p.115
[F9]	Selection of Mode dial illumination pattern when power switch is turned ON	 p.116
[F10]	Selection of the state of the end of film when rewinding	 p.116
[F11]	Selection of the built-in flash in the wireless flash mode	 p.116

BASIC SETTING OF PENTAX FUNCTIONS

Follow the procedure below to set a Pentax Function.

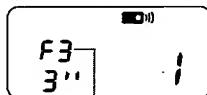
1 Display Pentax Function No.

① Turn the mode dial to PF.



② Move the select switch to display the Pentax Function No. You wish to set. The Pentax Function No. will be displayed on the LCD panel

Example:
Selection of Remote controller operation time.



Pentax Function No.

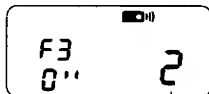
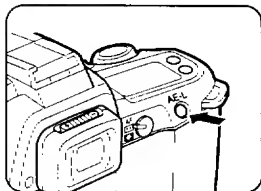
APPENDIX

2 Display the setting No.

- 1 Press the AE lock button and display the setting No.
The setting No. will be displayed on the LCD panel.



The LCD panel shows that Pentax Function No. F3
The setting number on the panel shows function no. F3 (the setting number for the operating time of the remote controller is set to "2").



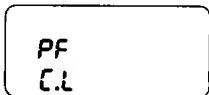
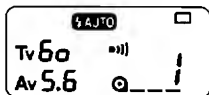
Setting No.

- 2 Turn the mode dial to "AUTO PICT".




Resetting the Pentax Functions to the Default Settings

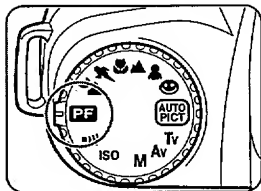
- 1 Set the mode dial to [PF].
- 2 Hold down the AE lock button for 2 sec. or longer. [PF] and [CL] will be displayed on the LCD panel, and all the Pentax Functions will be reset to default setting.
- 3 Set the mode dial to [AUTO PICT].



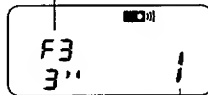
SETTING A PENTAX FUNCTION

The settings for each Pentax Function are explained below.
To display the Pentax Function No. and setting No., see
Basic Setting of Pentax Functions.  p.111

① Set the mode dial to PF



② Pentax Function No.: Select with the select switch.



③ Setting No.: Select with the AE lock button.

◆ [F1] Selection of range of auto bracketing correction value

This is used to select the range of the correction value when using the auto bracketing function.

● Pentax Function No. [F1]

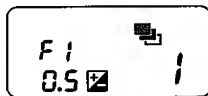
● Setting No.

[1]...1/2 step (EV)

[2]...1/3 step (EV)

[3]...2/3 step (EV)

[4]...1 step (EV)



◆ [F2] Selection of re-set to single frame after auto bracketing exposure.

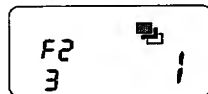
This is used to select whether the camera automatically returns to single frame shooting after auto bracketing exposure.

● Pentax Function No. [F2]

● Setting No.

[1]...Returns to single frame shooting

[2]...Remains in auto bracketing



◆ [F3] Selection of shutter release delay time with the remote controller

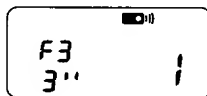
This is used to select the delay time when taking pictures using the remote controller.

●Pentax Function No. [F3]

●Setting No.

[1]...picture taken after 3 seconds

[2]...picture taken immediately



◆ [F4] Selection of whether or not auto focusing is used during remote control photography

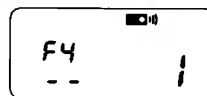
This is used to select whether or not auto focusing is used when taking a picture using the remote controller.

●Pentax Function No. [F4]

●Setting No.

[1]..Auto focusing not used

[2]..Auto focusing used



◆ [F5] Selection of exposure metering mode during AE Lock

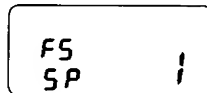
This is used to select either spot metering or multi-segment metering mode during the AE Lock.

●Pentax Function No. [F5]

●Setting No.

[1]...Spot metering

[2]...Multi-segment metering



◆ [F6] Selection of whether or not AE lock is used when the subject is focused

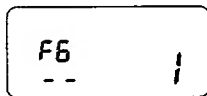
This is used to select whether or not AE lock is used when a subject is focused with shutter release button is depressed halfway down.

● Pentax Function No. [F6]

● Setting No.

[1]...AE lock not used

[2]...AE lock used



◆ [F7] Selection of autofocus method in the Action Program Mode

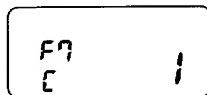
This is used to select whether focusing be made continuously or focus be locked when a subject is focused in the Action Program mode except auto pictures.

● Pentax Function No. [F7]

● Setting No.

[1]...Continuous focusing

[2]...Focus lock



◆ [F8] Selection of illumination method of LCD panel

This is used to select the timing at which the panel lighting is illuminated during display.

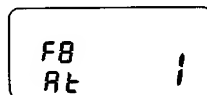
● Pentax Function No. [F8]

● Setting No.

[1]...Illuminated automatically
when shutter button is
depressed halfway down
when the subject being pho-
tographed is dark

[2]...Illuminated when the electronic
preview button is pressed

[3]...Not illuminated



◆ [F9] Selection of mode dial illumination pattern when power is turned on

This is used to select the illumination pattern of the mode dial when the power is turned on.

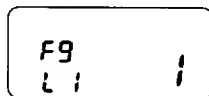
● Pentax Function No. [F9]

● Setting No.

[1]...Pattern A (regular illumination)

[2]...Pattern B (irregular illumination)

[3]...Not illuminated




◆ [F10] Selection of the state of the end of the film when rewinding film

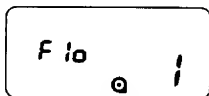
This is used to select whether or not the leader on the end of the film is to be wound up when the film has been rewound.

● Pentax Function No. [F10]

● Setting No.

[1]...Film completely rolled up

[2]...End left unwound  p.35



◆ [F11] Selection of how built-in flash be fired in wireless mode

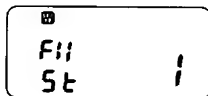
This is used to select whether the flash unit be fired in master mode or controlled mode.

● Pentax Function No. [F11]

● Setting No.

[1]...Fire in master mode (built-in flash unit is fired)


[2]...Controlled fire (built-in flash unit is not fired)



■ CAMERA FUNCTIONS AVAILABLE WITH VARIOUS LENSES

FUNCTION	Lens [Mount type]	FA lens [K _{AF} /K _{AF2}]	F lens [K _{AF2}]	A lens [K _A]	M lens [K]	S lens [Screw]
Autofocus (Lens only)		○	○	×	×	×
(Lens with AF Adapter 1.7X)		-	-	○*1	○*1	×
Manual focus (with FI)*2		○*3	○*3	○*3	○*3	×
(with Matte field)		○	○	○	○	○
3 - points AF		○	○	×	×	×
Auto Picture, Picture		○*4	○*4	○*5	×	×
Aperture-Priority AE		○	○	○	○	○
Shutter-Priority AE		○*4	○*4	○	×	×
Metered Manual		○	○	○	○	○
Multi(6)-segment metering		○	○	○*6	×	×
Approx. 1-stop indication		○	○	×	×	×



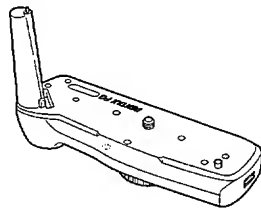
- *1. Lenses with a maximum aperture of f/2.8 or larger. (See AF Adapter operating manual.)
- *2. Manual focusing using the focus indicator (FI) () in the viewfinder.
- *3. Lenses with a maximum aperture of f/5.6 or larger.
- *4. Exception of Pentax-FA Soft 85mm f/2.8 and FA-soft 28mm f/2.8.
- *5. Standard operation mode only.
- *6. With A50mmf/1.2, the center-weighted metering or Spot metering is used instead of the multi-(6) segment metering mode.
- *7. Multi(6)-segment metering, if selected, will be switched to center-weighted metering.

ACCESSORIES (OPTIONAL)

A number of dedicated accessories are available for this camera.

■ AA-BATTERY PACK F_G

Battery grip powered by size-AA batteries and dedicated to the MZ-6/ZX-L.



Battery Life (Using 24-exposure film rolls)

The number of 24-exposure film rolls that can be taken with a new set of alkaline batteries is indicated below.

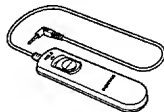
	Number of film rolls at 20°C/68°F
General existing light photography	about 180 rolls
Flash photography (using flash 50% of the times)	about 35 rolls
Flash photography (using flash 100% of the times)	about 20 rolls
Bulb exposure time	about 18 hours

APPENDIX

■ CABLE SWITCHES

Cable Switch CS-205

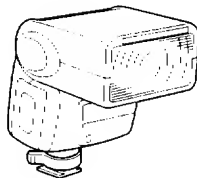
It lengths: 0.5 m



■ FLASH ACCESSORIES

AF360FGZ

TTL auto flash unit with Guide No. 36. Features include slave-sync flash, multiple-flash, and leading/trailing curtain-sync flash. High-speed sync and wireless flash can be used.



AF500FTZ

A TTL Auto Zoom flash with a built-in AF spotbeam and large guide number of 50 in meters (ISO 100). It features the slave sync flash function, multiple flash burst, contrast-control-sync flash, leading/trailing -curtain-sync flash mode.

AF220T

A TTL Auto flash with a guide number of 22 in meters (ISO 100).

AF201SA

An auto flash (not TTL) with the guide number of 20 in meters (ISO 100).

AF140C

TTL macro flash unit with the guide number of 14 in meters (ISO 100).

Off-Camera Shoe Clip CL-10

Enables the AF360FGZ to be used as a wireless flash.

Hot Shoe Adapter F, Extension Cord F5P and Off-Camera-Shoe Adapter

The adapters and cord which allow the external flash to be used off the camera, while maintaining full electric coupling to the camera.

■ VIEWFINDER, LENS AND CLOSE-UP ACCESSORIES

Magnifier FB

Magnifies the image at the center of the viewfinder.

Refconverter A

Right angle finder which attaches to the grooves on both sides of the viewfinder. The viewfinder magnification is able to switch from 1X to 2X.



While attached, it may obstruct the opening/closing of the camera back. First detach the Refconverter A before opening/closing the camera back.

AF Adapter 1.7X

An adapter for autofocus photography using a non-autofocus lens with a maximum aperture of f/2.8 or larger.

Filters

Skylight, Cloudy, UV, Y2, O2, R2 and Circular Polarizing Filter are available in sizes of 49mm, 52mm, 67mm and 77mm.



- Since the camera's autofocus mechanism uses a semi-transparent mirror, using a non-circular polarizing filter may throw off the autofocus-ing and exposure metering precision. When using autofocus, a circular polarizing filter is recommended instead. This will also maintain exposure metering precision.
- When you attach/detach Adapter K (for the 645 lens) to the camera, the adapter's screw should not contact the camera body. If necessary, change the screw's position.
- The hot shoe cover attached to the hot shoe unit is used exclusively with the MZ-6/ZX-6 and MZ-7/ZS-7. The use of other hot shoe covers will prevent operation of the auto pop-up function of the flash.

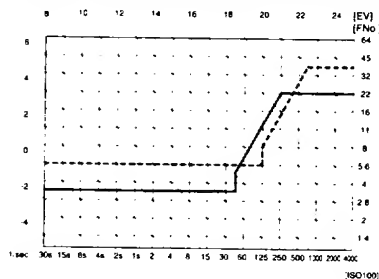
Auto Extension Tube K

A set of three tubes. A close-up accessory placed between camera and lens. Supports automatic aperture and metering with maximum aperture.

PROGRAM DIAGRAMS

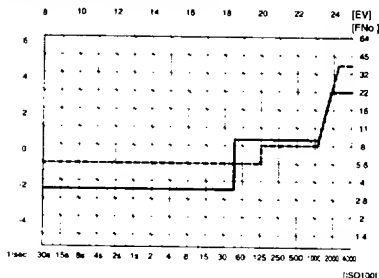
① Standard Operation Mode

Night-scene Program Mode without Flash



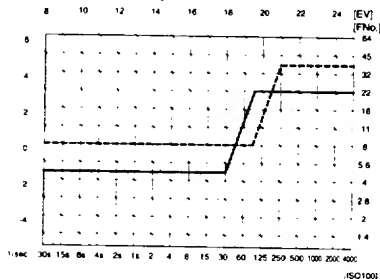
With FA 28-90mm f3.5-5.6

② Portrait Program Mode



With FA 28-90mm f3.5-5.6

③ Landscape Program Mode



With FA 28-90mm f3.5-5.6

TROUBLE SHOOTING

Before requesting service, please check the following points.

◆ Nothing is displayed on the LCD panel.

Check 1: Power is OFF.

Countermeasure Turn the main switch to ON (☞ 22).

Check 2: Batteries are not inserted or inserted backwards.

Countermeasure Check the insertion direction of the batteries and insert the batteries correctly (☞ 13).

Check 3: The batteries are exhausted.

Countermeasure Replace the batteries with new ones (☞ 13, 38).

◆ Shutter does not trip.

Check 1: Power is OFF.

Countermeasure Turn the main switch to ON (☞ 22).

Check 2: Batteries are not inserted or are inserted backwards.

Countermeasure Check the insertion direction of the batteries and insert the batteries correctly (☞ 13).

Check 3: The "Battery Warning" is blinking.

Countermeasure Replace the batteries with new ones (☞ 13, 38).

Check 4: The mode dial is set to the [PF] [■]]] or [ISO] position.

Countermeasure Set the mode dial to a position other than the [■]]] position, [PF] position or [ISO] position.

Check 5: The built-in flash is charging.

Countermeasure Wait until charging is finished (☞ 31).

◆ Subject is out of focus.

Check 1: The subject to be focused on is not inside the AF frame.

Countermeasure Cover the subject you wish to photograph within the AF frame before shooting (☞ 27).

Check 2: The picture-taking distance is too close.

Countermeasure

Move away from the subject to be photographed (☞ 76).

Check 3:

The subject is not suited for autofocus (☞ 77).

Countermeasure

Use focus-lock to focus on a subject which is about the same distance as the subject to be photographed (page 81), or set the focus mode switch to the [MF] position and then use the mat screen to focus manually (☞ 79)

Check 4:

The focus mode switch is at the [MF] position.

Countermeasure

Use the focusing indicator and mat screen to adjust the focus manually (see page 79). Or set the focus mode switch to the [AF] position before taking pictures (☞ 75).

◆ Exposure counter is not displayed or does not advance.

Check 1:

[E] is blinking on the LCD panel.

Countermeasure

Film has not been loaded properly. Load the film again (☞ 20).

◆ The built-in flash does not fire.

Check 1:

The built-in flash is charging.

Countermeasure

Wait until charging is finished (☞ 31).

Check 2:

The "Battery Warning" symbol is blinking.

Countermeasure

Replace the batteries with new ones (☞ 13, 38).

Check 3:

The flash mode is set to [A] (auto flashing mode).

Countermeasure

If the subject to be photographed in the auto flash mode is bright, the flash will not light. Set to the flash ON mode to cause lighting even for bright subjects (☞ 84).

◆ Imprinting data on negative is faint.

Check 1: Imprinting data information on a picture is faint.

Countermeasure Replace the data back's battery (CR2025) (ⓘ p.40).

◆ AE lock do not work.

Check 1: The camera is set to Manual Exposure.

Countermeasure Set the exposure mode to the Auto Picture Mode or Picture Mode. (ⓘ 25, 56).
















◆ The built-in flash does not pop up automatically.


Check 1: The camera is not set to the Auto Picture Mode or Picture Mode.

Countermeasure Set the exposure mode to the Auto Picture Mode or Picture Mode. (ⓘ p.25, 56).

SPECIFICATIONS TABLE

● Type	TTL autofocus, multi-mode auto-exposure 35mm SLR with built-in TTL auto flash (RTF)
● Format	24 × 36mm
● Usable Film	35mm perforated cartridge film. DX-coded film with ISO 25-5000; non-DX coded films with ISO 6-6400
● Exposure Modes	Auto Picture Mode, Picture Mode (Standard Operation Mode, Portrait Program Mode, Landscape Program Mode, Close-up Program, Action Program Mode, Night-scene Program Mode), Shutter-Priority AE Mode, Aperture-Priority AE Mode, Metered Manual Mode, Bulb Mode, TTL Flash Mode
● Shutter	Electronically controlled vertical-run focal-plane shutter, Electromagnetic release, Speed range: (1)Auto 1/4000-30 sec.(stepless),(2)Manual 1/4000-30 sec.(3)Bulb,
● Lens Mount	Pentax KAF bayonet mount (K-mount with AF coupler, lens information contacts).
● Compatible Lens	Pentax KAF2-, KAF-,KA-, and K-mount lenses are usable. Autofocus is possible using AF Adapter with KA-and K-mount lenses.
● Autofocus System	TTL phase-matching multi-(3 points) autofocus system switchable to Spot focusing, AF operational brightness range: EV -1 to 18(at ISO 100 with f/1.4 lens), Focus lock available using shutter release button/AF button, Focus Mode: AFS(single), AFC(predictive AF), Manual[MF]. AF illuminator
● Viewfinder	Fixed pentamirror, Natural-Bright-Matte focusing screen, Field of view:92%, Magnification:0.7X(with 50mm f/1.4 lens at infinity), Diopter: -2 to +1m ⁻¹
● Viewfinder Indication	Focus Information. In-focus (Green lamp [●] is lit), front or back focus signals and unable-to-focus indicator (Green lamp blinks), Shutter speed indication, Aperture indication, Flash ready indication [⚡] is lit, Bar graph(exposure compensation),Over or Under exposure indication in Metered Manual Mode, exposure compensation indication, Green Operation Mode [●], Portrait Program Mode [👤], Landscape Program Mode [🏞️], Close-up Program Mode [📷], Action Program Mode [🏃], Night-scene Program Mode [🌃], [✳] AE Lock indicator

● External LCD panel Indication	Shutter speed, Aperture value, [] = Built-in flash ready indication, [] = blinking slowly flash recommended warning, [] = blinks rapidly Inappropriate lens warning, [] = Red-eye reduction flash mode, [] = Auto pop-up flash function, Automatic flash function, ISO indication, [] = Film status information, [] = Battery exhaustion warning, Exposure counter, [] = PCV signal indication, [] = Exposure compensation, Exposure compensation value, [] = Self-timer, [] = Auto bracketing mode, [] = Consecutive shooting, [] = Multiple exposure, [] = Wireless flash mode, [] = High-speed flash sync
● Preview Button	Electronically controlled type and possible to use in all exposure modes
● Self-timer	Electronically-controlled type with delay time of 12 sec. Start by depressing of shutter release button, Operation confirmation : Possible to set PCV beep tone. Cancelable after operation.
● Auto bracketing	Three frame consecutive shots with exposure bracketing in 0.5 EV step. Increment, Possible to use with exposure compensation
● Mirror	Quick-return mirror with AF secondary mirror.
● Film Loading	Film advances automatically to 1st frame after back cover is closed, Film information window is provided.
● Film Wind & Rewind	Auto wind/rewind by built-in motor, Consecutive or Single advance mode, Approx.2 frames/sec.(consecutive mode), Auto rewinding starts at end of roll, Film rewind/completion of rewinding is displayed on the LCD panel, mid-roll rewind button will rewind film in mid-roll.
● Exposure Meter	TTL multi(6)-segment metering, Metering range from EV0 to EV21 at ISO100 with 50mm f/1.4 lens.
● Exposure Compensation	±3EV in 0.5EV step increments
● AE Lock:	Set by AE lock button, current exposure value remains for 20 sec. With the shutter release button pressed halfway down, the exposure value remains continuously.

● Flash	Series-control, Retractable TTL Auto Flash (RTF), Guide number: 11 (ISO100/m), Illumination angle covers 28mm lens angle of view, Flash-sync-speed in the range from 1/125 to a slower speed, Slow-speed-sync flash, Contrast-control-flash sync (ISO range=25-800), Auto pop-up, Red-eye reduction flash function
● Flash sync	Hot shoe with X-contact with couples with Pentax dedicated auto flashes, ISO range=25-800, Flash-sync-speed in the range from 1/125 to a slower speed. Possible to use high-speed sync, wireless flash mode, P-TTL mode with AF360FGZ.
● Pentax function	11 user-defined functions
● Power source	Two 3V lithium batteries (CR-2 or the equivalent)
● Battery Exhaustion Warning	Battery exhaustion symbol [] is lit. (The shutter is locked and no indication in the viewfinder when starts blinking)
● Dimension and Weight	135.5mm(W) × 92mm(H) × 63mm(D) (5.3" × 3.6" × 2.5") 400g (14.1 oz) body only without batteries
● Supplied Accessories	Hot Shoe Cover Fk, Release Socket Cap, Camera Strap Fk, Eye Cup Fk, Finder Cap
Data Back Fj Cover (optional)	Crystal quartz controlled: LCD with digital clock, auto calendar up to 2049.
● Data printout	7-segment, 6-digit LCD
● Printout confirmation	"—" indication blinks for a few seconds on LCD panel.
● Printing mode	① Year/month/day, ② day/hour/minute, ③ "----", ④ month/day/year, ⑤ day/month/year
● ISO range	ISO 25–1600 (automatic setting)
● Power source	CR2025 (lithium battery)
● Number of prints	Approx. 5,000

SPECIFICATIONS ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTIFICATION OR ANY OBLIGATION ON THE PART OF THE MANUFACTURER

For customers in the USA

STATEMENT OF FCC COMPLIANCE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does not cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

APPENDIX

For customers in Canada

This Class B digital apparatus meets all requirements of the Canadian Interference - Causing Equipment Regulations.

Pour les utilisateurs au Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

WARRANTY POLICY

All Pentax cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from date of purchase. Service will be rendered, and defective parts will be replaced without cost to you within that period, provided the equipment does not show evidence of impact, sand or liquid damage, mishandling, tampering, battery or chemical corrosion, operation contrary to operating instructions, or modification by an unauthorized repair shop. The manufacturer or its authorized representatives shall not be liable for any repair or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or from other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that the liability of the manufacturer or its representatives under all guarantees or warranties, whether expressed or implied, is strictly limited to the replacement of parts as hereinbefore provided. No refunds will be made on repairs by non-authorized Pentax service facilities.

Procedure During 12-month Warranty Period

Any Pentax which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the equipment or to the manufacturer. If there is no representatives of the manufacturer in your country, send the equipment to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the equipment can be returned to you owing to the complicated customs procedures required. If the equipment is covered by warranty, repairs will be made and parts replaced free of charge, and the equipment will be returned to you upon completion of servicing. If the equipment is not covered by warranty, regular charges of the manufacturer or of its representatives will apply. Shipping charges are to be borne by the owner. If your Pentax was purchased outside of the country where you wish to have it serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your Pentax returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy.

In any case, however, shipping charges and customs clearance fees to be borne by the sender. To prove the date of your purchase when required, please keep the receipt or bills covering the purchase of your equipment for at least a year. Before sending your equipment for servicing, please make sure that you are sending it to the manufacturer's authorized representatives or their approved repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation for the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing.

The local warranty policies available from Pentax distributors in some countries can supersede this warranty policy. Therefore, we recommend that you review the warranty card supplied with your product at the time of purchase, or contact the PENTAX distributor in your country for more information and to receive a copy of the warranty policy.



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(<http://www.pentax.co.jp>)

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GERMANY

(HQ - <http://www.pentax-europe.com> Germany - <http://www.pentax.de>)
Pentax U.K. Limited Pentax House, Heron drive, Langley, Slough, Berks SL3 8PN,
U.K. (<http://www.pentax.co.uk>)

Pentax FRANCE S.A. 12/14, rue Jean Poulmarch, 95106 Argenteuil Cedex, FRANCE

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(<http://www.pentax.nl>)
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(<http://www.pentax.be>)

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(<http://www.pentax.ch>)

Pentax Scandinavia AB P.O. Box 650, 75127 Uppsala, SWEDEN (<http://www.pentax.se>)

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(<http://www.pentax.com>)

Pentax Canada Inc. 3131 Universal Drive, Mississauga, Ontario L4X 2E5, CANADA
(<http://www.pentaxcanada.ca>)

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